

# Kenora-Rainy River Regional Laboratory Program

## Annual Report

### 2014

#### Mission Statement

The Program provides a community of cooperation and education to enhance the sharing of resources to improve quality and maximize the efforts of Regional Laboratory Services in providing a high level of service to our member hospitals and communities.

#### Values

<b>Integrity</b>	We act honestly, ethically and impartially at all times.
<b>Professionalism</b>	We encourage self-improvement and aim for scientific excellence.
<b>Quality Assurance</b>	We ensure that all our work is carried out in accordance with recognized standards.
<b>Teamwork</b>	We recognize the participation, initiative and cooperation of all the laboratories as being essential to our success.
<b>Client Focus</b>	We strive to recognize and anticipate the needs of clients by working openly and cooperatively to meet those expectations.

#### Board of Directors

Doug Moynihan	Atikokan General Hospital
Wade Petranik	Dryden Regional Health Centre
Mark Balcaen	Lake of the Woods District Hospital
Angela Bishop	Red Lake Margaret Cochenour Memorial Hospital
Allan Katz	Riverside Health Care Facilities, Inc.
Dave Murray	Sioux Lookout MenoYaWin Health Centre

#### Regional Office

Kenora-Rainy River Regional Laboratory Program, Inc.  
P.O. Box 3003, Dryden, ON P8N 2Z6  
Phone: 807-223-8264 Fax: 807-223-7342

Chief Operating Officer:	Wade Petranik
Laboratory Director:	Dr. J. Kerry MacDonald
Executive Director:	Tanya Knopf
Executive Assistant:	Marilyn Rustan

#### Organizational Chart

(See [Appendix A](#))

## **Foreword**

In 2014 the Executive Director was absent for most of the year. A special thank-you goes out to Anna Robinson who came out of retirement to work part-time for a few months and oversee some of the necessary activities of the program. Also, the group of laboratory managers is to be commended for working together throughout this year to complete many on-going projects, including Ontario Laboratory Accreditation. As a result of these unusual circumstances, some of the non-critical activities that have normally occurred in previous year's, were not fully realized in 2014.

## **Executive Summary**

The Kenora Rainy River Regional Laboratory Program (KRR RLP) is committed to providing quality education, expert advice and technical support to the six hospital laboratories in Northwestern Ontario. In collaboration with professional organizations and government agencies the Program delivers a solid foundation to assist the laboratories in achieving Ontario Laboratory Accreditation. KRRRLP is responsive to the healthcare needs of our communities by ensuring test platforms meet current and future needs.

The 2014 KRRRLP regional symposium, "Partners in Action" was a huge success with more than 70 delegates and vendors in attendance. The symposium continues to be the single biggest event of the year for the Program. Other educational activities included presentations by the Laboratory Director at the various sites on current topics.

The laboratory director spent time travelling to each lab in addition to participating in regular laboratory manager's meetings. These visits and meetings provide a venue by which the laboratories can share their experiences and the Program can provide resources for the revision or implementation of quality processes in the individual laboratories.

All laboratories continue to participate in a wide variety of external quality assurance (EQA) programs. Every test is validated and monitored by comparing results with other laboratories in the Province of Ontario. Any flags require an investigation to determine the root cause and then corrective actions are put in place to reduce the risk of reoccurrence. The Program assists laboratories through this process, by providing expertise and resources

Audits are an important part of any continuous quality improvement cycle. Each laboratory audits a variety of indicators within their own facility and the information is utilized to initiate quality improvement projects. The program is available to assist the laboratories with these initiatives. In addition, full internal audits of the quality management system are performed in each laboratory on a yearly basis. This year the Program supported the laboratories as they prepared for, and participated in, peer assessments by Ontario Laboratory Accreditation (OLA) and successfully achieved accreditation based on ISO 15189 standards.

Due to unforeseen circumstances some of the goals targeted for 2014 have not been fully implemented. As the program moves forward into 2015, with the Executive Director back at work, the laboratories are dedicated to moving forward on several outstanding projects.

## Detailed Description of Activities

### Equipment / Test Menus

The Program takes a futuristic approach to determine the most suitable analyzers for our laboratories to meet the demands of today and predict the needs of tomorrow.

In 2014, the Program issued a “Request for Proposal” (RFP) for new Hematology analyzers on behalf of 5 laboratories. There were three responses to the RFP and after many hours of deliberation, the laboratory managers agreed that the Beckman Coulter DxH 600 was the best fit for their laboratories. Most of the labs will be requesting the purchase of this analyzer either in this fiscal year (2014/2015) or the next (2015/2016).

The blood glucose monitor contract with Abbott expired in November 2014 for the six laboratories within our region. The Program, in cooperation with Thunder Bay Regional Health Sciences Centre and the Northwest Supply Chain, successfully negotiated to “piggyback” with the contract currently in place for the rest of the Northwestern Ontario labs. The contract extends out to 2017. In conjunction with this transition, the old PXP meters were replaced with new Freestyle meters which provide wireless connection to the quality assurance software. This will make the transfer of information in the meter more efficient, as the MLT’s will not have to physically plug the meters in to download data.

The laboratories continue to work with Siemens on the transition to the EXL chemistry analyzers. A “correction factor” was implemented for calcium in order to bring the results more in line with other hospitals in Ontario. A new reference range study was performed to account for the change in results obtained. In addition, Siemens continues to work with QMP-LS (IQMH) in regards to an apparent negative bias of creatinine values in the normal range. This is not considered a clinically relevant testing bias and so does not adversely affect patient care.

Looking forward, the program has been working with the microbiology laboratories to investigate the feasibility of Maldi-Tof technology. This technology allows for the identification of pathogenic organisms much quicker than the conventional ID systems, and provides a more complete identification for many isolates. A presentation at the Fall Symposium about this technology was enthusiastically received by all in attendance. Feasibility and business case studies are planned for 2015.

### Education

The Program organizes continuing medical and technical education in a variety of forums: conferences, teleconferences, workshops, presentations and lectures. It is committed to helping the medical and technical personnel be the best they can be.

The 23<sup>rd</sup> Annual Fall Symposium, “Partners in Action”, was held at the Best Western Lakeside Inn, in Kenora, on September 23, 24 & 25, 2014. The educational format consisted of nine (9) guest speakers who provided presentations relating to laboratory management and medicine. The 2014 Symposium was attended by 44 delegates from all of the hospitals in the region. The exhibition itself included 19 booths from various laboratory product companies with 28 vendors in attendance.

See the detailed program in [Appendix B](#).

Due to the absence of the Executive Director in 2014, the program was unable to produce a series of newsletters for physicians and technologists. The newsletter series is expected to resume in 2015.

The Laboratory Director provided educational “lunch’n learn” presentations to a variety of health care providers, including physicians, nurses and pharmacists, during his onsite visits. The presentations included the topics of C.Difficile and Normal Flora.

### **Onsite Visits and Meetings**

The Acting Executive Director and/or the Laboratory Director travelled to each site in the region a couple of times this past year. These visits provide an opportunity for the Laboratory Director to meet with the individual Laboratory Managers to discuss site specific issues and to review EQA and quality management documentation. See [Appendix D](#).

The Laboratory Managers met as a group with the Laboratory Director and the acting Executive Director several times throughout the year to deal with strategic planning, new initiatives and complex projects. These meetings provide guidance to the laboratories in order to meet the clinical needs and established goals in each facility. A primary focus of this year's meetings was Ontario Laboratory Accreditation, ensuring all laboratories had the tools and information available for the peer assessments in May/June of 2014. Following the peer assessments, the Program met with the Laboratory Managers to assist labs in completing corrective actions to achieve successful accreditation in all six laboratories.

The regional Microbiology Committee did not meet in 2014, but is expected to resume their quarterly teleconferences in 2015.

### **Recruitment/Retention**

Laboratory Medicine is a service and often we think we have no control on our workload such as the number of laboratory tests performed or the number of call backs in a given week. Dr. MacDonald continues to work closely with two of the smaller sites to find solutions to ease call back burden and staff shortages.

Recruitment, retention and succession planning of qualified staff continues to be a challenge for the laboratories of this region. The hard work and concerted effort to recruit has netted some new technologists. Several laboratories are clinical training sites for Cambrian College and Confederation College in an effort to ensure a pool of potential employees. Those sites involved with clinical training have found the experience very rewarding. Graduates have reported their overall training as a positive experience.

### **EQA Challenges**

The Institute for Quality Management in Healthcare (IQMH), formally Quality Management System - Laboratory Services (QMP-LS), and OneWorld Accuracy provide external quality assurance (EQA) programs specifically designed for Ontario laboratories. The goal is to provide a confidential assessment by which a laboratory can compare its internal test results to those of other laboratories.

A Regional review of EQA challenges is performed annually to assess performance to previous years. See [Appendix E](#).

Each discordant result is followed up by a root cause analysis. The discordant results may have more than one root cause. The results are as follows

	Non-conformances
Statistical/method bias/matrix effect	40
Technical -misinterpretation of results, calculation errors, QC limits not followed, sample mix-up, random error	4
Materials - defective reagents/unsupported reagents, mishandling QMP-LS samples	5
Failure to follow SOP	0
Equipment function	1
Organizational Factors - communication, MLT training, missing SOP information, staff shortages	9
Transportation Issue	7
Unexplained Error	5

A significant number of the discordant results were as a result of bias associated with a specific method. These required communication with the vendor and are not within the control of the individual laboratories. Some technical errors required changes to process and/or procedure while others required education and/or training of staff.

Overall, in 2014, the laboratories rate of non-conformance was 1.1%. This rate is slightly higher than in previous years, but still in line with the provincial average of 1%. The increase is primarily related to the new EXL Chemistry analyzers. The laboratories have worked closely with Siemens in researching these non-conformances and corrective actions have been put in place where applicable. It is expected that the rate of non-conformance in chemistry will significant drop in the upcoming year.

### **Accreditation and Audits**

Audits are an intrinsic part of quality management and an essential management tool to be used for verifying objective evidence of processes, to assess how successfully processes have been implemented, for judging the effectiveness of achieving any defined target levels, to provide evidence concerning reduction and elimination of problem areas. In areas where the laboratories are encountering common problems, the Program will assist in collating audit results from all of the sites, analyzing the data and determining corrective actions as required.

Audits at each site may include:

- Test and patient volumes
- Patient wait times
- Turnaround times for operational processes
- Quality assurance metrics, for example rejected specimen rates, edited report rates external proficiency testing results, blood culture contamination rates
- Customer satisfaction – customer satisfaction assessment surveys and complaint
- Specimens received by the laboratory unlabelled or mislabeled, inadequate or incomplete specimens received by the laboratory, failure to follow collection process
- Patient identification
- Failure or delay to receive laboratory test results (e.g. delayed specimen receipt, delayed testing, reports not sent to physician, lost reports)

In summary, the Laboratories are meeting their defined target levels. Any corrective action items have been acted on expeditiously and the Laboratories are in position to meet the OLA requirements.

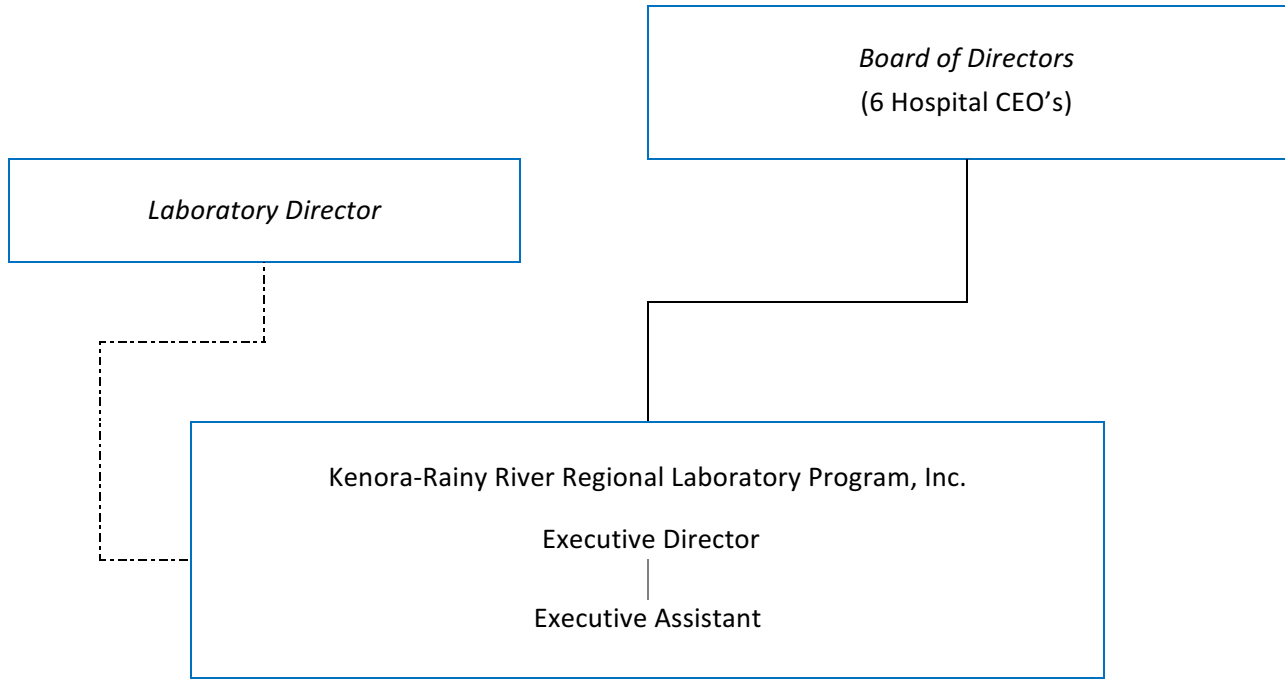
**Goals for 2014:**

<b>Goals</b>	<b>Status</b>
Implement RapidComm for monitoring POCT Urinalysis	Not completed; alternate program being investigated
Implement Ant-Factor Xa (Heparin) testing	Completed in 3 of 6 sites
2014 Fall Symposium "Partners in Action"	Complete
Develop RFP for hematology Analyzer	Complete
Research Maldi-Tof for microbiology testing	In Progress
OLA – develop and implement corrective actions from finding of peer assessments	Complete

**Goals for 2015:**

- 2015 Fall Symposium, Dryden
- Recruitment of New Executive Director, KRR RLP
- Implementation of POCT interfaces to Mediatech
- Update to POCT quality assurance software (pWeb)
- Develop RFP for Maldi-Tof analyzers in cooperation with St Joseph's Group
- Implementation of Risk Management software for quality control (Mission Control)
- Implement CRP testing in place of ESR testing.

### Organizational Chart





## Annual Fall Symposium 2014

### Summary

The 23<sup>rd</sup> Annual Fall Symposium, “Partners in Action”, was held in Kenora at the Best Western Lakeside Inn on September 23, 24 & 25, 2014.

Forty-Four (44) delegates attended the 2014 Symposium:

▪ Atikokan General Hospital:	1
▪ Dryden Regional Health Centre:	4
▪ Lake of the Woods District Hospital:	22
▪ Red Lake MC Memorial Hospital:	2
▪ Riverside Health Care Facilities:	7
▪ Sioux Lookout MenoYaWin Health Centre:	5
▪ KRR RLP	3

The Educational format consisted of nine (9) guest speakers who provided presentations, as follows:

#### **Tuesday, September 23:**

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Tour of Kenora Forensic Identification Unit (Forensic Lab)	<b>Marc Sharpe</b> Acting/Sergeant, Unit Commander Ontario Provincial Police
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Speak for the Dead to Protect the Living - Partners in Death Investigation	<b>Dr. Michael Wilson</b> Regional Supervising Coroner
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#### **Wednesday, September 24:**

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Bleeding Disorder? Yes or No	<b>Dr. Nicole Laferriere</b> MD, Ph.D, FRCP(C) Systemic Therapy Regional Quality Lead; Acting Chief of Oncology/ Medical Program Director Regional Cancer Care., Thunder Bay Health
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Laboratory Protocols and Lymphoma	<b>Georgia Carr</b> Quality & Compliance Officer Clinical Laboratory and Coordinator of Flow Cytometry TBR HSC
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How to <i>Flourish</i> and Focus	<b>Maggie Chicoine</b> The Idea Sculptor
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**Wednesday Evening:** Dinner at Kenora’s Plaza Restaurant – a Taste of Greece  
Followed by a game of Canadian Jeopardy (*created by Dawna White – LWDH*)  
*sponsored by OSMT*

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**Thursday, September 25:**

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The Incredible World of Antigens & Antibodies:  
Positive Antibody Screen: What's Next?

**Nadia Baillargeon**

Immunohematology Training Specialist  
Immunohematology Reference Laboratory  
and Stem Cells Laboratory  
Héma-Québec

*sponsored by Bio-Rad Laboratories (Canada) Ltd.*

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Improving Collaboration and Education  
with Communication

**Brenda Herdman**

Transfusion Medicine Technical Director  
Diagnostic Services of Manitoba

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Changing Microbiology  
– The Impact of MALDI-Tof Technology

**Tina Peers**

Regional Sales Specialist  
Diagnostics Systems

*sponsored by BD Diagnostics*

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Infection Prevention and Control :  
Partnering with Laboratories to Heal

**Lynn Ronnebeck**

Infection Control Professional  
Lake of the Woods District Hospital

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The Exhibition itself included nineteen (19) booths with twenty-eight (28) vendors.

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**2014 Fall Symposium**

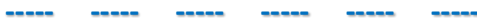
Partners In Action

<b>Revenue:</b>		
Booth Space	23,000.00	
Sponsorship	500.00	
		<b>\$23,500.00</b>
<b>Expenses:</b>		
Catering:		
Tuesday	3,528.33	
Wednesday	5,286.62	
Thursday	2,439.86	
		11,254.81
Accommodation		
Speakers	720.40	
Sales Representatives	6,847.30	
KRR RLP Techs & Staff	3,574.32	
		11,142.02
Travel		
Speakers	2,352.47	
KRR RLP Techs & Staff	1,409.40	
		3,761.87
Other Expenses:		
Fall Symposium Welcome Supplies	843.27	
Speaker Honorarium / Gifts	2,391.12	
Door Prizes	198.17	
		3,432.56
<b>Total Expenses</b>		<b>29,591.26</b>
Variance		<b>-6,091.26</b>

## Appendix C

### 2014 Newsletters

Unfortunately, due to the absence of the Executive Director, there were no Newsletters published by the Program in 2014.



## Appendix D

### Regional Meetings 2014

Board of Directors	Regional Laboratory Managers	Regional Microbiology
May 25	January 21	
<b>June 25</b>	February 5	
June 25 AGM	April 24	
October 1	May 7	
	June 4	
	June 25 & 26	

### Onsite Visits 2014

Atikokan General Hospital	Dryden Regional Health Centre	Red Lake MC Memorial Hospital	Riverside Health Care Facilities	Sioux Lookout MenoYaWin Health Centre
March 18	March 24	March 26	March 19	March 25
October 8	October 1	October 21	October 23	October 22

### Lunch'n Learn Educational Presentations 2014

Atikokan General Hospital	Dryden Regional Health Centre	Red Lake MC Memorial Hospital	Riverside Health Care Facilities	Sioux Lookout MenoYaWin Health Centre
March 18 <b>C difficile; Pitfalls and Promises</b>		March 26 <b>C difficile; Pitfalls and Promises</b>	March 19 <b>C difficile; Pitfalls and Promises</b>	March 25 <b>C difficile; Pitfalls and Promises</b>
October 18 <b>I Love My Normal Flora</b>	October 1 <b>I Love My Normal Flora</b>	October 21 <b>I Love My Normal Flora</b>	October 23 <b>I Love My Normal Flora</b>	March 25 <b>I Love My Normal Flora</b>

**QMP-LS Non-Conformances**
**QMP-LS Non-Conformances per Discipline**

	<b>2014</b> datapoints	<b>2013</b> datapoints	<b>2012</b> datapoints	<b>2011</b> letters	<b>2010</b> letters	<b>2009</b> letters	<b>2008</b> letters
Chemistry*	20/924	19 / 888	8 / 888	2	1	4	0
Drug Monitoring**	7/492	9 / 510	3 / 510	7	5	4	1
Endocrinology	0/60	1 / 68	0 / 68	1	0	0	0
Enzymes	6/345	4 / 388	1 / 388	3	1	0	1
POCT	1/279	0 / 250	8 / 250	0	0	0	0
Hematology	4/452	3 / 472	7 / 472	0	1	2	4
Coagulation	0/80	1 / 96	3 / 96	1	0	2	4
Morphology	0/168***	1 / 15	0 / 30	1	5	0	1
Transfusion Medicine	5/1224***	2 / 504	4 / 504	2	0	2	1
Bacteriology	7/645***	3 / 26	0 / 26	1	0	1	6
Virology	1/64	0 / 64	0 / 64	0	0	0	0
Pathology/Bone Marrow	0/4	0 / 2	0 / 2	-	-	-	-
<b>Totals</b>	51/4737	44 / 3298	34 / 3298	18	13	15	18

\* Includes Blood Gases

\*\* Includes Drugs of Abuse

\*\*\* IQMH Assessed Test Data Points

**QMP-LS Non-Conformances per Laboratory**

	<b>2014</b> datapoints	<b>2013</b> datapoints	<b>2012</b> datapoints	<b>2011</b> letters	<b>2010</b> letters	<b>2009</b> letters	<b>2008</b> letters
Atikokan General	7/620***	6 / 471	5 / 471	3	3	1	2
Dryden Regional Health Centre	7/658***	6 / 526	1 / 526	4	1	1	2
Lake of the Woods District Hospital	13/1000***	6 / 686	11 / 686	3	5	7	7
Red Lake Margaret Cochenour Memorial	6/537***	10/394	3 / 394	0	1	1	0
Riverside Health Care Facilities, Inc.	8/936***	17 / 600	1 / 600	4	2	1	2
SL MenoYaWin Health Centre	10/986***	9 / 621	13 / 621	4	1	4	5
<b>Totals</b>	51/4737***	34 / 3298	34 / 3298	18	13	15	18

**Appendix E**
**Explanation of Discordant Results 2014**

<b>Atikokan General Hospital</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>DRUG 1410 DA-3 Methamphetamine</b>	Pos	Neg	Pos	Method cross-reactivity	Vendor notified Patient report amended re: cross-reactivity
<b>DRUG 1410-2 Salicylate</b>	Neg bias	0.70-1.00	0.33	Manufacturer/ Reagent issue	Recalibration with New Lot#
<b>ENZY 1403-2 ALT</b>	Neg bias	40-54	39	??	??
<b>HEMA 1404-BF-1 RBC's</b>	Pos bias	664-1548	1574	Insufficient Staffing	Sr. Management notified
<b>VIRO 1410 RP-4 Influenza A</b>	Neg	Pos	Neg	Transcription Error	Second clerical check on QMPLS entries implemented
<b>TMED 1403-B-1 Anti-a</b>	Pos	Mixed Field	1+ (Pos)	Weak reaction, difficult to read	Staff education
<b>TMED 1403-B-2 IgG</b>	Pos	Neg	1+ (Pos)	Method related	Vendor notified

<b>Dryden Regional Health Centre</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>CHEM 1401-1 Creat</b>	Neg bias	76-94	74	Method bias	Vendor notified
<b>CHEM 1401 UR-1 UR-2 Potassium</b>	Neg bias Neg bias	80-108 55-75	49 49	Clerical/calculation error	Staff Education
<b>CHEM 1401 UR-1 UR-2 Sodium</b>	Neg bias Neg bias	221-299 152-206	141 142	Clerical/Calculation error	Staff education
<b>CHEM 1405-1 -2 -3 Calcium</b>	Neg bias Neg bias Neg bias	2.20-2.44 2.21-2.45 2.19-2.43	2.18 2.20 2.17	Method bias	Vendor notified Correction factor implemented
<b>CHEM 1409-1 -2 -3 Creatinine</b>	Neg bias Neg bias Neg bias	81-99 82-100 83-101	77 79 79	Method bias	Vendor notified
<b>HEMA 1410-LD-C Lymphocytes</b>	Neg bias	3.2-4.2	2.9	Unable to determine	Monitor QC and EQA
<b>HEMA 1401-LD-C Basophils</b>	Pos bias	0.0-0.2	1.0	Unable to determine	Monitor QC and EQA

**Appendix E**

<b>Lake of the Woods District Hospital</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>CHEM 1401-1 Calcium</b>	Neg bias	2.73-3.01	2.64	Method bias	Vendor notified
<b>CHEM 1401-1 1401-3 Creat</b>	Neg bias Neg bias	76-94 74-92	70 71	Method bias	Vendor notified
<b>CHEM 1401-2 Total Protein</b>	Pos bias	0.71-0.83	0.70	Method bias	Statistical outlier
<b>CHEM 1401-3 Mg</b>	Neg bias	79	68-78	Method bias	Statistical outlier
<b>CHEM 1405-1 1405-2 1405-3 Calcium</b>	Neg bias Neg bias Neg bias	2.20-2.44 2.21-2.45 2.19-2.43	2.17 2.19 2.16	Method bias	Vendor notified- Correction factor implemented
<b>CHEM 1405-2 Creat</b>	Neg bias	213-255	212	Method bias	Vendor notified
<b>DRUG1410-DA-3 Metamphetamine</b>	Pos	Neg	Pos	Significant # of Non-conformances	No action
<b>DRUG 1410-3 Phenytoin</b>	Pos bias	11-15	16	Method bias	Vendor notified
<b>HEMA 1410-LD-A 1410-LD-B 1410-LD-C Erythrocytes</b>	Pos bias Pos bias Pos bias	5.23-5.79 2.56-2.82 4.03-4.45	5.88 2.69 4.24	Unable to determine	Monitor QC and EQA
<b>BACT 1410-1</b>	Cefoxitin "I"	"R"	"I"	Not recommended for UTI	Procedure updated
<b>BACT 1410-1</b>	Nitrofurantion "I"	"S"	"I"	Within acceptable dilution	Vendor notified
<b>BACT 1410-3</b>	ID incorrect	M. chelonae	C. jeikeium	Procedure inadequate, Insufficient knowledge	Investigate AFB stain
<b>TMED 1403-B-2 IgG/DAT</b>	IgG 2+	Neg	2+ (pos)	Method related	Vendor notified

**Appendix E**

<b>Red Lake Margaret Cochenour Memorial Hospital</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>CHEM 1401-1 eGFR calc</b>	Pos bias	66-100	106	Method bias	Vendor notified
<b>CHEM 1401-1 Creatinine</b>	Neg bias	76-94	73	Method bias	Vendor notified
<b>CHEM 1409-1 -2 -3 Creatinine</b>	Neg bias Neg bias Neg bias	81-99 82-100 83-101	72 74 75	Method bias	Vendor notified
<b>ENZY 1403-1 Lactic Acid</b>	Neg bias	1.3-1.7	1.1	Transport issue	No action
<b>ENZY 1403-1 -2 Troponin</b>	Neg bias Neg bias	0.88-1.46 0.86-1.44	0.59 0.70	Transport issue	No action
<b>TMED 1403-B-2 IgG</b>	Pos	Neg	2+ (Pos)	Method related	Vendor notified

<b>Riverside Health Care Facilities</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>CHEM 1405-2 Calcium</b>	Neg bias	2.21-2.45	2.20	Method bias	Vendor notified Correction factor implemented.
<b>DRUG 1410-DA-3 Methamphetamine</b>	Pos	Neg	Pos	Management Oversight; Missed patient report comment re: cross- reactivity	Take more time for QMPLS submissions
<b>DRUG 1410-2 -3 Phenytoin</b>	Pos bias Pos bias	14-18 11-15	19 17	Method bias	Vendor notified
<b>BACTI 1401-4 Norfloxacin on C. sakazakii</b>	"R"	"S"	"R"	Transcription error; staff shortage	Staff education Hiring more staff
<b>BACTI 1404-4 Organism ID</b>	Incorrect ID	Strep constillatus	Strep Pyogenes (GrA)	Procedure inadequate	Procedure updated, Staff education
<b>BACTI 1410-2 Organism ID</b>	Incorrect ID	Vibrio vulificus	Vibrio fluvialis	Manufacturer probelm	Vendor notified
<b>BACTI 1410-4a Organism ID</b>	Incorrect ID	Enterococcus faecalis	Enterococcus durans	Manufacturer problem	Vendor notified
<b>TMED 1403-B-2 IgG</b>	Pos	Neg	2+ (Pos)	Reagent performance	Vendor notified



**Appendix E**

<b>Sioux Lookout MenoYaWin Health Centre</b>					
<b>Survey</b>	<b>Error</b>	<b>Reference Lab Result</b>	<b>Laboratory Result</b>	<b>Root Cause</b>	<b>Corrective Action Plan</b>
<b>CHEM 1401-1 -2 Calcium</b>	Neg bias Neg bias	2.73-3.01 2.18-2.42	2.72 2.15	Method Bias	Vendor notified
<b>CHEM 1401-1 -2 Creatinine</b>	Neg bias Neg bias	76-94 74-92	72 70	Method Bias	Vendor notified
<b>CHEM 1405 UR-2 Urine Protein</b>	Neg bias	15.02-22.52	12.978	Incorrect method code Insufficient knowledge	Method code updated Sr MLT to select method code
<b>CHEM 1409-1 Calcium</b>	Neg bias	2.37-2.61	2.34	Method bias	Vendor notified Correction factor implemented
<b>CHEM 1409-1 -2 -3 Creatinine</b>	Pos bias Pos bias Pos bias	81-99 82-100 83-101	103 102 104	Failure to detect equipment malfunction	Implement new policy re: verification of equipment
<b>DRUG 1410-2 Salicylate</b>	Pos bias	0.70-1.00	1.03	Method bias	Vendor notified
<b>ENZY 1403-1 -2 AST</b>	Pos bias Pos bias	42-56 42-56	67 66	Transportation issue; Failure to request repeat specimens	Staff education re: requesting repeat samples when compromised.
<b>ENZY 1403-1 -3 Lactic Acid</b>	Pos bias Neg bias	1.3-1.7 4.9-5.9	3.1 4.3	Transportation issue; Failure to request repeat specimens	Staff education re: requesting repeat samples when compromised.
<b>ENZY 1410-1 Troponin I</b>	Pos bias	1.09-1.81	1.99	Equipment problem	Vendor notified, equipment calibrated
<b>POCT 1405-GL-2 Glucose #11</b>	Pos bias	4.3-6.5	6.6	Inadequate mixing; communication with staff	Staff education re: mixing of samples