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INSIDE THIS ISSUE

Coordinator's Report, 2008-2009

by Esther Kwok

ISO 9001:2008

QMI-SAI Global conducted a re-assessment audit on our quality management system against the updated standard, ISO 9001:2008, on May 13, 2009 and we met all the requirements.

The auditor found four opportunities for improvement, which we have resolved.

Finances

At the moment, our finances are stable and we continue to monitor our income and expenditures regularly. We decided to apply a shipping fee to our packages at the beginning of this fiscal year due to an increase in fuel costs and courier rates beginning last year. Due to the increase in cost of supplies, there will be a 2.5% increase to the cost of all CMPT programs in the 2010-2011 fees.

Water Bacteriology

For many years, we had combined the 4 drinking and one recreational water samples in each of the three shipments. In the last two years, we have been receiving requests for multiple shipments of our recreational water samples, particularly the samples containing *P.aeruginosa* and *Enterococcus sp*. in order to meet accreditation requirements. Laboratories were required to submit two successful Proficiency Testing (PT) surveys. It didn't seem very efficient from a QC and cost point of view to fill the orders upon request, so we thought it would be better to create a recreational water program which was a stand-alone program, which consisted of two shipments.

The advantages of two programs are that laboratories have more flexibility and can order up to three recreational water samples for testing. With two shipments, laboratories have the opportunity to meet accreditation requirements. Two water programs allow for greater efficiency in quality management and product delivery. The only disadvantage is that it creates a busier climate for CMPT staff, but it is worth it if it means our participants are happy.

Canadian Association for Laboratory Accreditation (CALA)

CMPT has had a contract since October 2005, as a supplier of water samples to labs accredited by CALA. As we neared the end of our contract with one shipment left, we put in a bid for a new contract. Our products have received very good feedback and we had hoped we could continue the relationship with CALA. On October 2, 2009 however, we found out that we were unsuccessful in our bid. Although we are disappointed with the outcome of our bid, we can now focus on other programs under development.

Clinical Microbiology

This year, CMPT launched the Gram Smear Supplementary Program. The smears are optional and laboratories only receive them if they were already registered for one of the Clinical Bacteriology programs. We are pleased to announce that 80 labs signed up for the program, which represents 58% of our participants. We sent the gram smears out on August 17, 2009 for the first time.

We would like to welcome to Dr. Paul Levett, from Saskatchewan Disease Control Laboratory, who will be joining the CMPT Clinical Microbiology committee.

On the horizon:

We've received requests for simulated samples for rapid group A streptococcus detection and molecular testing. In the future, we will survey our participants to see if there is any interest in these programs before we proceed.

Parasitology

The last couple of years, we've had a difficult time obtaining Parasitology samples. We were able to purchase some materials from the Maclean Centre for Tropical Diseases, but the cost of the material was expensive and had increased five times from the previous year. Who knew stool would be worth so much? As a result, we increased the cost of the program in 2009 by 18%. We were able to keep our prices as low as we could because BCCDC and BC Biomedical Labs were able to provide us with some materials. Thank you to BCCDC and BC Biomedical Labs.

Mycology Plus

The antifungal susceptibility testing component was launched this past year. It didn't work out as we had planned as only two of our participating labs perform susceptibility testing. We were hoping there would be more labs in the program. However, we are committed to the program and we'll continue offering the susceptibility component and see how it goes.

Dermatophyte Mycology

The number of participants in the Dermatophyte Program continues to diminish with the retirement of dermatologists. The younger dermatologists do not appear to be interested. Last year, the UBC Department of Dermatology returned approximately 10 unopened boxes of the survey samples we used to send them for educational purposes. Currently it is the smallest program with 3 dermatologists. A couple of years ago, we revised the program to align it with the Mycology Plus

COORDINATOR'S REPORT, 2008-2009

program to increase its cost effectiveness. We're committed to the program and will continue the program until the last dermatologist retires.

International Delegates
This Spring, from May 25 to June 5, 2009, 4 delegates from the Chinese Centre for Disease Control in Beijing spent two weeks at CMPT for PT training and learning the fundamentals of our Clinical Microbiology program in order to implement similar programs in Beijing. Jiandong Li, Meiying Yan, Lei Wang, Yongyun Zhou trained in proficiency testing, preparation of PT materials, quality management, administration, and general paperwork. Mike has recently returned from a trip to Beijing for a follow-up and they have initiated a couple of programs already.

CMPT Staff
After 25 years with CMPT, twelve of which she was the editor and web manager, Robin had retired this Spring. She thought that last year was her final Annual Meeting, but she is back as a presenter. We are happy to have found Veronica Restelli to fill the Editor's position and happy to announce Suhanya Bhuvanendran as our new web manager. She is currently doing double duty in the lab and with the CMPT website and is managing very well. We had hired a new laboratory assistant this year, however, she did not work out as we had hoped. We've suspended reposting the position indefinitely, due in part to the unsuccessful CALA bid.

Publications:
With an environmental goal of going paperless where we can, the Annual Report, Connections newsletter and the Critiques are now available on-line at www.cmpt.ca.

In conclusion, I would also like to thank the following people and organizations for their continuing hard work and support of all CMPT programs:

- CMPT staff & committee members
- UBC Department of Pathology
- Accreditation Programs
- Vancouver Coastal Health Authority
- Vancouver General Hospital Microbiology Laboratory
- BCCDC Environmental, General Bacteriology and Parasitology Labs
- EWQA (Enhanced Water Quality Assurance)
- BC Biomedical Labs
- University of AB Hospital, Microbiology and Mycology Laboratories
- QE II Hospital Microbiology & Environmental Services in Halifax
- Canadian Association of Laboratory Accreditation, CALA
- BC Ministry of Environment
- Maclean Centre for Tropical Diseases at McGill University
- Participating Laboratories

GOALS AND OBJECTIVES FOR 2009-2010

Goals for 2009-2010 (Annual Report 2008-2009)

The objectives and goals for 2009-2010 were presented at the CMPT Annual Meeting, October 5, 2009.

CMPT continues to maintain its long term goals to be a consistent, reliable, innovative provider of external quality assessment services and education.

P09-1	To complete all pending objectives from last year.	Proposed
Q09-1	To look at costs and benefits of ISO17043:2010	Proposed
Q09-2	To maintain ISO9001:2008	Proposed

Michael A Noble MD FRCPC
Chair

ENHANCED WATER QUALITY ASSURANCE

This article summarizes the presentation by Shelley Tiffin at the CMPT Annual Meeting 2008-2009

EWQA's Purpose:

EWQA is a laboratory Auditing Service, providing recommendations to the PHO, Ministry of Healthy Living And Sport for inclusion on the PHO Approved Laboratory List (currently lists 17 laboratories in BC and Alberta).

BC's Drinking Water Protection Act (2003), sets out monitoring requirements (organism and sampling frequency; immediate reporting standard) in a PHO approved laboratory.

Drinking Water Officers administer and enforce the *Drinking Water Protection Act & regulation and the Health Act* and provide interventions to minimize health and safety hazards.

Drinking Water Officers, Public Health Engineers and Medical Health Officers, are responsible for direct service delivery in BC's Health Authorities.

EWQA's Goal:

To ensure that the microbiological testing of drinking water for public health purposes is performed accurately and in accordance with the established audit standards and is in compliance with the BC Drinking Water Protection Act & regulation including timely reporting of results for the protection of BC residents.

EWQA's Audit Standards:

The EWQA Questionnaire is referenced to: "BC's Drinking Water Protection Act (2003) & regulations. Standard Methods For the Examination of Water and Wastewater (APHA)", 21st Edition.

CMPT's Role:

Approved Laboratory PT performance is monitored by EWQA. Satisfactory performance in an approved proficiency testing program is a requirement for maintaining Approved Certification.

EWQA Audit Process (3 year Audit Cycle):

- Document Review; Onsite Audit;
- Audit Report & recommendation to PHO;
- Non-conformance Reviews;
- Mid-cycle Reviews;
- Proficiency Testing Reviews

EWQA Operating Structure

- Steering Committee
- Technical Committee (QAWG)
- Auditors
- Coordinator

Recent Work:

Revised EWQA policies, processes, procedures, forms, etc. in accordance with:

ISO 17021:2006 Requirements for bodies providing audit and certification of management systems, and

ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing.

Check the EWQA/CMPT Bulletin online at http://www.phsa.ca/AgenciesAndServices/Services/PHSA-Labs/Testing-Requisitions/Environmental/Enhanced-Water-QA/default.htm

What's with the green box?

The Committee recommends that all Proficiency Testing samples should be processed as routine samples even when there is a staff shortage or high workload.

The "green box" has been added to all critiques to remind the participant laboratories that participation in proficiency testing schemes provides laboratories with an objective means of assessing and demonstrating the reliability of the data they are producing. It is especially important during times where there is a staff shortage or high workload.

THE LABORATORY AND THE WASP

In April 2009, the Walk Away Specimen Processor –WASP-(Copan) was installed at Vancouver General Hospital. The first in Canada, the instrument is an automated system for both inoculating and streaking microbiology samples. Dr. Diane Roscoe, Vancouver General Hospital's Medical Microbiology and Infection Control Division Head, and Judy Reid, the Vancouver Coastal Health Microbiology Regional Technical Specialist, anticipated that this technology would improve throughput capacity and consistency while freeing up staff resources.

I wanted to know how the instrument had affected the life at the microbiology laboratory and how things had worked so far.

Q: Could you briefly describe what WASP is and how it works?

WASP is the abbreviation for "Walk Away Specimen Processor". The specimen is placed on the machine where the WASP reads the test order from the specimen bar code, selects the appropriate media according to the VGH protocol for that specimen type, and then inoculates and streaks that media.

Q: How many samples does the Microbiology lab at VGH process per year?

VGH processes about 250,000 specimens per year.

Q: How many samples a day can this instrument process?

It purely depends on the number of plates per specimen, what the streak pattern is and whether you need to change the settings for different container sizes. It can streak 180 plates per hour for a single plate from a swab. The carrousel holds up to 9 different types of media at one time for a total of 360 plates. You can add additional media while the WASP is in use.

Q: What kind of samples can the WASP process? What are the limitations?

The WASP can process any type of liquid specimen that is in a plastic (non-glass) container within certain size constraints (10 mL – 120 mL).

Q: Do you need special materials?

The WASP specific consumables are: the loops for streaking plates, some drip pads for inside the instrument, labels and a liquid based specimen system. Urines and body fluids can be processed as long as they are in a standardized collection container. For specimens collected with swabs, Copan manufactures a swab called the "ESwab", a flocked swab in a liquid transport medium designed for the WASP automated system. However, any liquid based medium can be processed if the size and dimensions are provided to Copan so that a de-capper tool can be produced. WASP can streak any 90 – 100 mm plate. Our previous instrument, which streaked plates only, required a single vendor media plate to be configured. Multiple vendors' plates could not be accommodated.

Q: What kind of QC testing does an instrument like this need to ensure it runs with the needed efficiency and quality?

We ran a number of clinical specimens side-by-side with our old method to compare the isolation with our previous automated streaker and with manual streaking. There are 1 ul, 10 ul and 30 ul loop sizes. Copan can design the streak pattern any way the laboratory draws it. It took a bit of trial and error to get the bacteria growth pattern how we liked utilizing the maximum area of the plate. It required many more streaks back into the original inoculum than we expected. Plates inoculated with "sterile" specimens were also tested to assess for the possibility of contamination from carry-over from other specimens.

We also checked the gram stains from the new ESwabs to see if our current method of reading and reporting would have to be adjusted. Although it appears that less material is transferred to the glass slides, the quantity and type of cells and bacteria were equivalent with the different swab types.

Q: You have worked with the WASP for approximately seven months now. What would you say is the biggest impact on the lab dynamics?

Actually, our go-live with clinical specimens was not until the end of July, so we have only run the instrument for a little over 2 months.

We probably spent at least 8-10 weeks setting up the streak patterns for both urine and swab specimens. Also during that time the technical support technologist and another technologist planned the daily workflow and worked on the WASP interface program. It is hard to say the impact because just before the WASP coming to our laboratory we also changed our set-up process from technologists to laboratory assistants. So the laboratory assistants were just settling into their new role when they had to learn to operate this new instrument. It would be easier to measure the impact if our staff processes had remained consistent.

I think the biggest impact to date has been in getting staff used to automation. Microbiology staff tends to be more "hands on" and using an instrument to take over their functions is not comfortable for many. Automation requires maintenance and troubleshooting and this learning has taken some time. We anticipate that as we adjust to the new technology staff will be freed up to perform other activities.

Q: Being the first in Canada and one of the first in the world to test and use this kind of instrument imagine you work closely with the manufacturer in order to give feedback and suggest modifications.

We have worked very closely with Copan during this set-up period. They have provided and continue to provide extensive training and support to both laboratory staff and to nursing wards.

Q: As we move to a more automated laboratory setting, what is your opinion of the role of the laboratory technologist in the lab?

The role of the technologist is changing for sure. It is getting more difficult to maintain that old fashioned knowledge of basic biochemical reactions and what are typical patterns of identification and susceptibility testing. Future technologists will have to focus more on critical thinking to ensure that we do not blindly accept that instrumentation and automation always perform correctly and give the right answers. We need to constantly challenge our beliefs and make sure we are on the right track.

Q: Does VGH have any plans to bring more state-of-the-art instruments to its Microbiology laboratory?

One technology we would like is to have is one that would allow a VGH microbiology technologist to read a gram stain using 100X that is on the microscope at one of our more remote regional laboratories. Travel time from some of these more rural laboratories can be a challenge for providing good turn around times.

I would like to thank Ms. Judy Reid and Dr. Diane Roscoe for their time and collaboration that made this interview possible.

Get Connected

Follow up 1st Annual Canadian Quality Congress

The 1st Annual Canadian Quality Congress was held at the University of British Columbia in Vancouver, Canada, from August 19-21, 2010. The event hosted over 150 international delegates who share ideas on the theme: Focus on Future: Quality, Innovation and Social Responsibility.

ABOUT CONNECTIONS

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