

ANNUAL REPORT 2011 - 2012

Innovation • Education • Quality Assessment • Continual Improvement

30th Anniversary Edition

Clinical Microbiology Proficiency Testing

— Established in 1982—

ISO 9001:2008 Registration 2002

CMPT, Department of Pathology and Laboratory Medicine

The University of British Columbia

Room 328 A, 2733 Heather Street

Vancouver, British Columbia Canada V5Z 1M9

Michael A Noble MD FRCPC, Chair and Managing Director
Esther Kwok BSc, RT, CLQM, Coordinator
Telephone: 604-875-4685 or (toll free) 1-866-579-CMPT (2678)
Facsimile: 604-875-4100 or (toll free) 1-866-580-CMPT (2678)
E-mail: cmpt.path@ubc.ca or info@cmpt.ca
Web site: www.cmpt.ca

ISO 9001:2008



ISO 9001

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CMPT STAFF

The CMPT staff is committed to the highest standards of quality and professionalism. This dedicated team of administrative and technical staff provides support through all phases of the program.

Michael A. Noble , MD FRCPC	-----	Chair and Managing Director
Esther Kwok , BSc, RT, CLQM	-----	Coordinator
Caleb Lee , MHA, BMLSc, CLQM	-----	Senior Technologist
Suhanya Bhuvanendran , BMLSc, CLQM	-----	Technologist and Web Manager
Veronica Restelli , MSc	-----	Editor

As a program in the Department of Pathology and Laboratory Medicine, University of British Columbia, CMPT acknowledges and greatly appreciates the on-going support of the following individuals:

Mike Allard, MD, FRCPC, Professor and Department Head

Maureen Barfoot, Executive Director Administration

CMPT QUALITY POLICY AND MISSION STATEMENT

Innovation, Education, Quality Assessment, Continual Improvement

- We at CMPT are a university based, peer directed program, that provides Innovative External Quality Assessment for microbiology laboratories providing services for public and patient health.
- Our vision is to be recognized provincially, nationally, and internationally as a leader for EQA innovation, education and continued quality improvement for the benefit of healthcare, our participants and our program. CMPT is committed to its Quality Management System, and regular review for continual improvement of its effectiveness.
- The CMPT Quality Policy is the framework for the regular establishment and review of quality objectives.
- CMPT is committed to regular review of the Quality Policy to ensure its suitability to the program.

Michael A. Noble, Chair

August, 2011

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CMPT Program

UBC's Clinical Microbiology Proficiency Testing program, now with 29 years of experience and expertise, has a long tradition of continued growth and evolution. This last year, 2011-2012, has been one of preparation for much change. As we approach our 30th year, we can look back to our accomplishments and forward with anticipation.

We were extremely busy again this last year; we have organized new programs, experimented with new services, and had major and significant changes in personnel and space.

CMPT Staff

As the chair and managing director of CMPT, my hat goes off to our hard working staff. CMPT exists because of them. As mentioned before, CMPT is a sum greater than its parts because of the energy and commitment to excellence of Esther Kwok, our coordinator, Caleb Lee, our senior technologist, Suhanya Bhuvanendran, technologist and web manager, and Veronica Restelli, our writer and editor. This year Suhanya has been on maternity leave, and this has resulted in some increased shared workload impacts for the group. My hat is off to the whole group for pulling together.

CMPT location

Our location in Heather Street has always been a "mixed blessing". There are clearly many benefits for our being in a location close to the Vancouver Coastal Health Authority and BCCDC, especially with our well designed space. However, the building (in which our space is situated) has not been maintained over the years and that has created many challenges. This year we have been planning for the closure of Heather Pavilion. Our long anticipated move to a new location is likely to occur soon.

CMPT Volunteers

CMPT is grateful for all the support we receive from our committee members and chairs. Without the committee members, it would be impossible for us to maintain our challenge selection process, our assessment system, and the high quality of our critiques and newsletter.

As always CMPT recognizes the valuable role that our committee members contribute. We receive the benefit of their time, knowledge and expertise. All is appreciated.

Quality Management and ISO Certification

Once again, CMPT was successfully audited by SAI

Global and we maintained our certification to ISO 9001:2008; we continue to be the only proficiency testing program in North America to seek certification to ISO 9001:2008.

Last year we were found to have a 'non-conformity' in that we had not completed a full and formal internal audit process. This year we amended that flaw and our inspection and assessment was completed without any deficiencies.

There continue to be reasons for us to consider official recognition to ISO:17043:2010: "Conformity assessment - General requirements for proficiency testing" which we will likely pursue when financial issues can be resolved. At this point it is significant that CMPT participants see our ISO Certification to ISO9001:2008 as providing value and competence, thus there is no urgency to be assessed against the new standard. That being said, we ensure that, at all times, our technical and quality control activities embrace all the requirements of ISO:17043:2010.

CMPT is interested in the potential impacts of occasional or accumulated minor deviations in the production process which can be measured by the 'Reliability Calculator.'

Opportunities for Improvement

CMPT has maintained on ongoing OFI table since it was first registered. During the last year and additional 8 issues were identified.

The most significant being a packaging error in which a number of laboratories did not receive one of the expected smears for Gram stain, a sample contamination, and an identification confusion on one of our microorganisms. With respect to the packaging error, from our records it was the first time that this slip had occurred. This was most likely due to a distraction on a busy day. The problem was immediately remediated. No procedure changes were required.

The contamination was found to be related to the ventilation system in our laboratory. This is a chronic problem and it will be resolved when we move to our new facility. In the meantime, we have made use of biological safety cabinets. A call to building management was made requesting ventilation cleaning.

The identification confusion was detected by two distinct identifications given by a reference laboratory. The investigation of this problem is still ongoing.

Management Review of our Quality System

As part of the annual process, the Strategic Quality Plan was reviewed. Three new policies (SQP025 –

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Statistical Analysis including Quality Control and SQP026 – Addressing Non-Conforming Samples and Reports) have been developed.

SQP25 indicates that CMPT shall take Measurement Uncertainty into consideration and statistical information used by CMPT shall be shared with interpretations upon request of CMPT clients/laboratories.

SQP026 specifies the remediation, investigation and reporting required when a non-conforming sample is identified.

SQP027 is intended to ensure CMPT committee revitalization and succession by defining the limits of volunteer participation.

CMPT Mission and Vision statements (SQP:001 – CMPT Quality – Mission and Vision Statements) were revised to align to current definitions and to reinforce our vision as participants in international development and improvement in external quality assessment.

“We at CMPT are a university based, peer directed program that provides Innovative External Quality Assessment for microbiology laboratories providing services for public and patient health. Our vision is to be recognized provincially, nationally, and internationally as a valued contributor of EQA innovation, education and as passionate advocates for continued quality improvement in EQA for the benefit of healthcare, our participants and our program.”

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Management Review of Resources

CMPT relies on the revenues generated through cost recovery, personnel, and our site.

With respect to finances, CMPT had a deficit which has been significantly addressed over the last year. A review has indicated this deficit was due to decreasing revenues from continued laboratory consolidation rather than increasing expenses. The solution has been to increase revenues from the provision of additional services. These have been the product of innovation for new and wider product lines appropriate to external quality assessment and increased laboratory participation.

Management Review of Continuing Education

CMPT is committed to providing opportunities for our staff to participate in education opportunities. During this year we had two significant meetings in Vancouver including the AMMI-CACMID Conjoint Meeting on Infectious Diseases and the BC Patient Safety Conference. We had staff members attending both conferences.

Management Review of Services conformity

One of our opportunities for improvement involved some concerns about one of our couriers and overcharges. Our relationship with couriers is critical because it is our largest non-salary expense and critical to our quality. In September a decision was made to change couriers. This resulted in a decrease in costs and increased confidence in laboratories across Canada receiving their samples on time.

Ungraded samples

Over the years, CMPT sample grading has become increasingly complex. Some challenges may be both verified by quality control and validated by reference laboratories but will still have elements ungraded because of certain practices of laboratories. The CMPT committee is concerned if samples have been found completely unacceptable for assessment. These ungraded samples are monitored year over year. While it is the goal to have zero ungraded samples, our goal is to maintain the annual level at no greater than three. Again in 2011-2012 we had no samples that were completely unacceptable for assessment.

Management Review of Customer Satisfaction.

During the year, CMPT performed a review of customer satisfaction of our supplemental Gram stain program. This program was developed to ensure that middle to larger laboratories would receive sufficient samples of normally sterile body fluids such as joint fluid and cerebrospinal fluid so that they could ensure their competence in reading these samples. This survey was used as the basis of our CMPT Composite Score for Customer Satisfaction.

The survey asked about the quality of the slides with respect to realism, stainability, and the components on the slides. In all parameters, over 90 percent of reviewers found the slides acceptable or better. Most significant to us was that 98 percent of reviews saw the samples as typical of clinical samples, and 95 percent said that they stained similar to clinical samples.

The single concern in the creation of the samples was the appearance of the cellular components on the slides. This has been an ongoing issue, and CMPT believes that we have made marked improvements in the stability of the neutrophils and lymphocytes on the slides.

With respect to the critiques that accompany the results of the challenges, all reviewers saw the critiques as acceptable or better with 75 percent rating them as Very Good or Excellent. This is important to us be-

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cause CMPT values the opinion that our material is seen as educationally supportive.

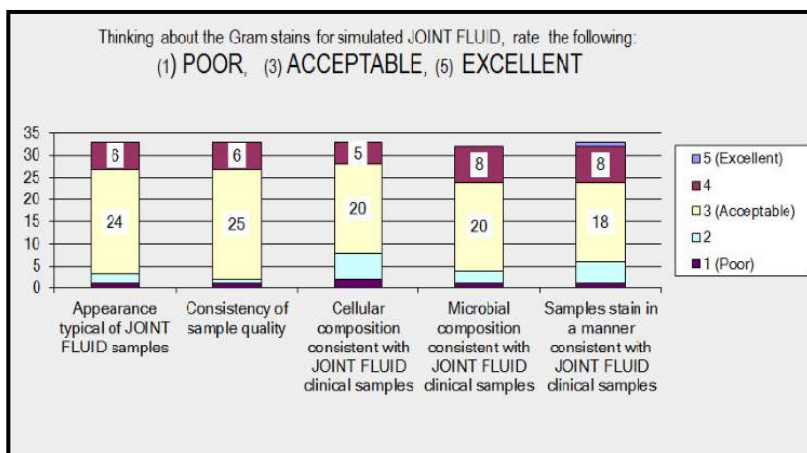
When we asked if there was any single addition or revision that would improve the quality of the critiques, the overwhelming majority requested more photographs and the second most requested addition was more narrative.

Overall the program was rated very positively with 94 percent approval. While 65 percent of laboratories believed the program was well sized, it was noted that 30 percent of laboratories believed the program could or should be increased to accommodate more samples, with particular interest in blood cultures (data not shown).

CMPT will continue to monitor the laboratories for their opinions on what we do well and on what we can do better.

Table 1. Ungraded samples 2000 - 2012

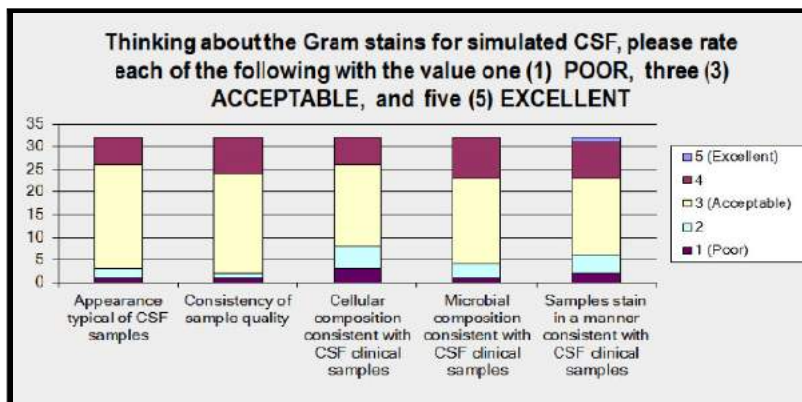
Year	Ungraded samples
2000 - 2001	0
2001 - 2002	3
2002 - 2003	3
2003 - 2004	3
2004 - 2005	3
2005 - 2006	3
2006 - 2007	4
2007 - 2008	3
2008 - 2009	1
2009 - 2010	2
2010 - 2011	0
2011 - 2012	0



CMPT Composite Satisfaction Score (CSS).

Each year CMPT combines the information from the surveys with other factors (contacts, complaints, consultations) and derives a weighted composite score Customer Satisfaction. In weighting negative comments, lost contracts and complaints are weighted greater than positive counterparts. We have been monitoring this indicator for 11 years. In 2011-2012, CMPT had new contracts, did not lose any contracts and had no complaints. When these factors were added to the negative comments received in the survey our CSS was 101 which we interpret as a strong positive year. The graph below indicates our CSS pattern for the past 11 years. The trend appears to correlate well with our financial health. In this graph values below 84 would be considered as results of concern. Values above 98 are considered as exemplary.

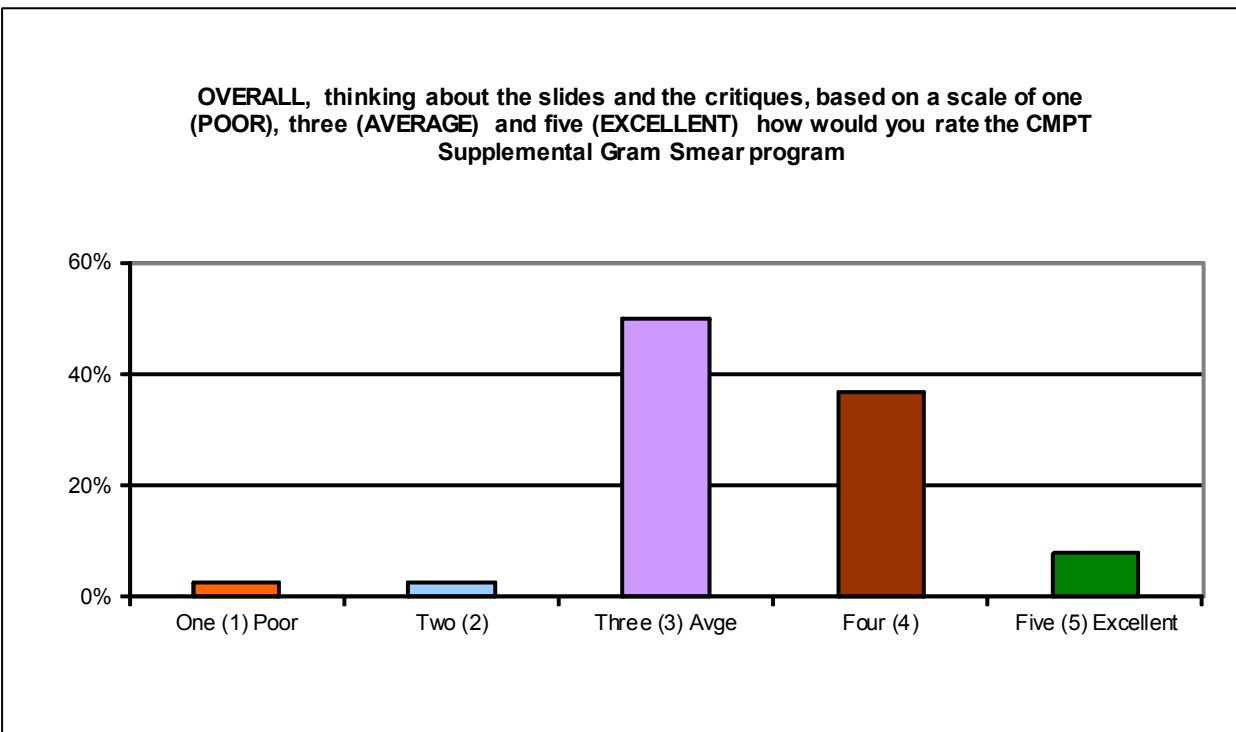
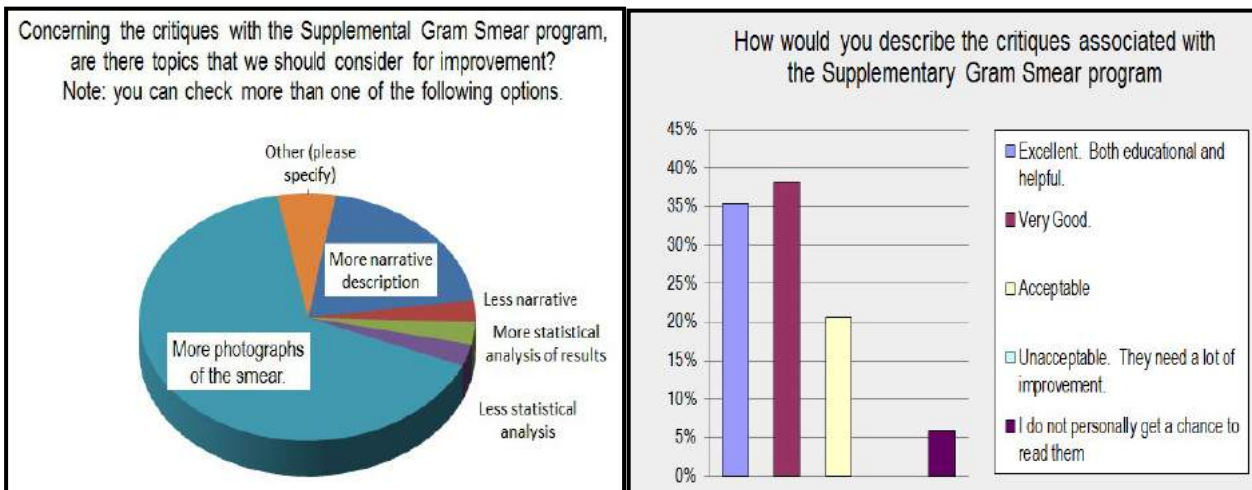
We consider this year's results as indicative of a strong positive year.



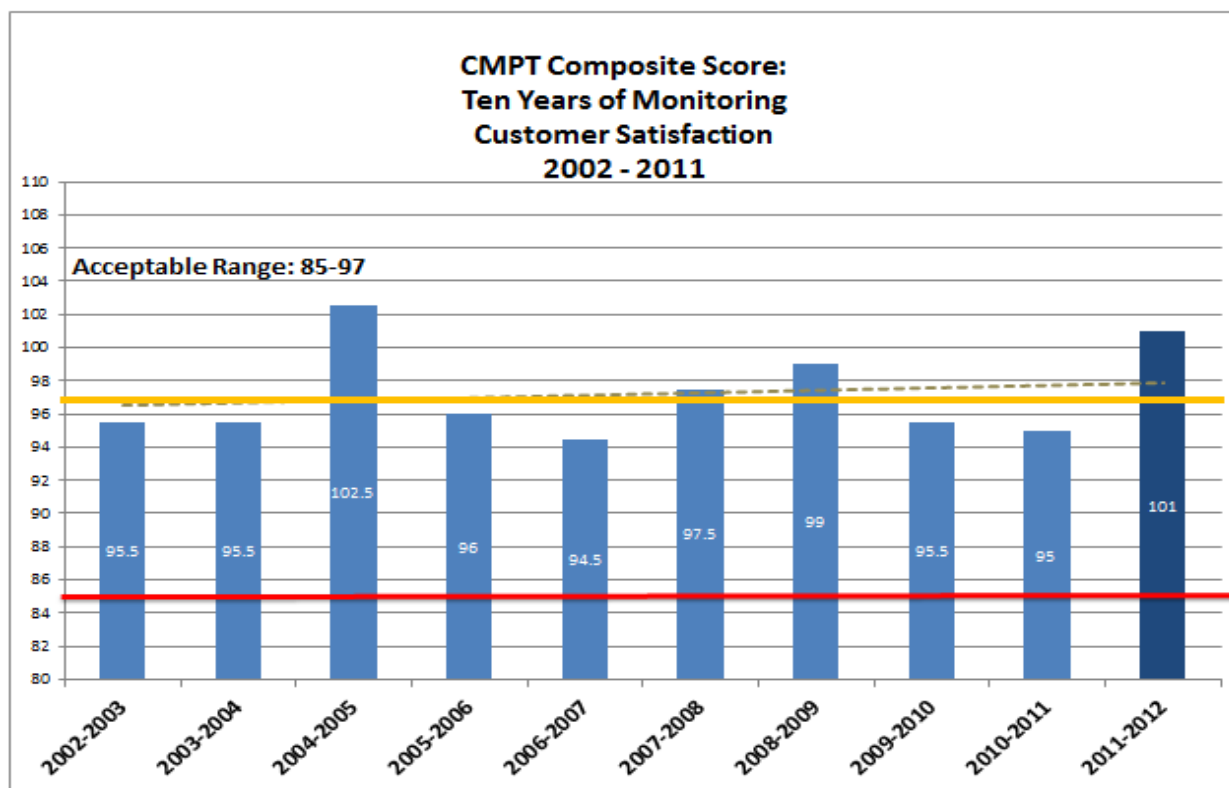
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CMPT Outreach Education

CMPT did not have any participants for its international training program this year; discussions are currently underway for two groups to participate in 2012-2013.



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CMPT Presentations and Publications

1. Noble M.A. 2011. Chapter 10 Prevention and Control of Laboratory-Acquired Infections, *Manual of Clinical Microbiology*, 10th Edition. Edited by P.R. Murray, E.J. Barron, J.H. Jorgensen, M.A. Pfaller. American Society for Microbiology. Washington DC. American Society for Microbiology
2. V. Restelli, M. Noble, A. Taylor, and D. D. Cochrane. Analysis of laboratory patient safety event reporting in British Columbia to identify opportunities to enhance data collection, support learning, and promote quality improvement. POLQM Quality Weekend Workshop. Vancouver BC. June 2011.
3. Opportunities in Quality Oriented Education. POLQM Quality Weekend Workshop. Vancouver BC June 2011.
4. Noble M.A. Costs and Consequences of Breaking Confidentiality. AMMI-Canada / CACMID. Vancouver BC. March 2012
5. Performance of Canadian Laboratories with Gram Stain EQA. Katholic University of Leuven. Leuven Belgium. April 2012
6. Providing on-line education: a Quality benefit. Katholic University of Leuven. Leuven Belgium. April 2012
7. V. Restelli, M. Noble, A. Taylor, and D. D. Cochrane. Analysis of Laboratory Patient Safety Event Reporting in British Columbia to Identify Opportunities to Enhance Data Collection, Support Learning and Promote Quality Improvement – Part 2. BC Patient Safety and Quality Council – Quality Forum 2012. Vancouver. March 2012
8. Laboratory Quality in Canada and the role of the Canadian Standards Association. Canadian Society for Clinical Chemistry. Quebec City. June 2012.

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CMPT and Strategic Planning

CMPT continues to function consistently to its Mission and Vision statements. Our long term objectives continue as iterated in our Vision statement (see above). In order to continue to meet our expectations, the following issues have been identified that need to be addressed over the shorter term: workload, financial resources, space, sample supply chain, partnerships, research, and committee structure.

Workload

We have found that we were able to continue operation during Suhanya's absence without bringing in a part-time replacement through some reallocation of time and responsibilities. This is not a viable long term solution because it was noted in the OFIs that slips did occur. Suhanya will return at the end of 2012. For CMPT to consider increasing manpower, we will need to attract long term external funding on a more aggressive basis.

We have been able to capitalize on the research and development for prolonged storage times for certain samples and materials. This has already found benefit in sample preparation. Importantly, it points to the value of focussed continued research and development. Focussed R&D needs to be supported and sustained.

Financial resources

The previous decrease in water laboratory participation had a negative impact on our year-over-year finances. This has been rectified to a large extent through changes in sample fee structure, and the creation of new EQA products, and contracts with EQA partners. Even when we neutralize the deficit within this (or the next) fiscal year, CMPT will need to continue to focus attention on provision of quality assessment oriented services and education.

Space

It is likely that CMPT will need to move from its current location in the next 6 months. Plans have been implemented to prepare for this.

Sample supply chain

CMPT has focused the quality of its program based in large part on the production and provision of challenge samples that closely simulate typical clinical samples.

For many of our samples, we have the unique knowledge of how to produce these samples internally. For other samples, production is more difficult; samples for enteric parasitology are one example.

EQA programs around the world are struggling to provide good challenge samples for enteric parasitology. There are a number of reasons for this. In Canada, the number of samples for enteric parasitology has decreased due to collection guidelines. The number of laboratories (usually larger laboratories) collecting samples has been reduced to a small number. Routine collection and examination for enteric parasites is the norm in exceedingly small numbers of laboratories in many of the countries in which exposure to parasites is more common.

While veterinary sources can be considered for a few select pathogens, the amount of parasites that animals, such as pigs, carry is much reduced thanks to better and healthier caring approaches. As a result, many EQA programs are struggling to find sufficient samples. Inferior alternatives such as photographs are being considered by some programs. CMPT does not intend to provide photographs as an EQA challenge alternative.

CMPT does have access to samples through partnerships and through commercial banks. It is our concern that this does not provide us with sufficient back up for supplies. We continue to look nationally and internationally for additional resources.

Partnerships

CMPT currently benefits from its partnership with its sister programs, the Program Office for Laboratory Quality Management, and the Canadian Immunohistochemistry Quality Control program. CMPT has developed new partner relationships with Canadian EQA Laboratories (CEQAL) and HealthMetrix Inc., and with the Department of Global Health, University of Washington. CMPT also works in conjunction with the Standards Council of Canada and the Canadian Standards Association and the International Organization for Standardization. In addition, we continue to meet and work with the international EQA community around the world.

Research

Over the years, CMPT has been able to engage in a continued program of internally funded research and development that has resulted in our being leaders in the production of clinically realistic challenge samples in bacteriology and toxin testing, mycology, and water bacteriology.

Lead by Caleb Lee, we have developed strategies that significantly extend the shelf and transport life of samples and developed more realistic sample simulations. This program will continue.

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In addition, we have done research investigations with hand wash materials and biofilms and electricity-free sterilization techniques which are perhaps less directly related to Quality and proficiency, but consistent with our microbiology foundations.

These microbiology research studies have the opportunities to stimulate ideas and innovations that can lead to further advancement in EQA. CMPT needs to continue to seek and develop more opportunities for research and external funding.

Committee structure

CMPT is highly appreciative of all the people that so generously volunteer their time to sit on our area committees and participate in the discussions, grading, critiques development, and contributions to CMPT Connections.

It is also understandable that after participating for many years, a level of writing and contributions fa-

tigue can set in. While we have had committee members change on a fairly regular basis, most of this change has been the result of their own work commitments or other plans.

CMPT has not had a policy of encouraging new members to participate. This has resulted in a group of people highly knowledgeable about proficiency testing as it is practiced in Canada but it has also created an increased level of risk with respect to a more organized progress to succession. It is therefore necessary that CMPT consider some restructuring of committee membership.

It is proposed that over the next 2 years, CMPT will start a program to gradually replace committee members who have served on CMPT committees for over 12 consecutive years, keeping in mind the importance of maintaining geographic and professional balances that have made our committees so successful.

CHAIRMAN'S ANNUAL REPORT

GOALS and OBJECTIVES

CMPT Goals and Objectives are classified as P (program) or Q (quality). CMPT continues to maintain its long term goals to be a consistent, reliable, innovative provider of external quality assessment services and education.

Goals 2010-2011		
P10_1	Continued work on Enteric Parasitology sample sources	Continued and Ongoing
P10_7	To seek external funding for research opportunities.	Ongoing. Grants and contracts proposals submitted.
Q10_2	To seek renewal of ISO 9001:2008	Successfully completed

Goals 2011—2012		
P11_1	Continued work on Enteric Parasitology sample sources	Continued and Ongoing
P11_2	Develop and introduce effective time efficiencies in production and assessment of challenges	Completed and Ongoing
P11_3	Remove current financial deficit in 2 years.	Budgeted to be eliminated
P11_4	Increase Microbiology content in CMPT Connections.	Ongoing
P11_5	Work within the Department of Pathology and Laboratory Medicine (PaLM) to ensure appropriate space.	Space has been identified and a move has been scheduled
P11_6	Define and operationalize opportunities with new partners.	Completed and Ongoing
Q11_1	Meet ISO 9001:2008 certification without non-conformances.	Completed successfully

Goals 2012-2013		
P12_1	Continue work on Enteric Parasitology sample sources (critical)	
P12_2	Develop new research strategies with graduate student(s)	
P12_3	Continue to increase Microbiology content in CMPT Connections	
P12_4	Move to new quarters without affecting ongoing PT programs	
Q12_1	Meet ISO9001:2008 certification without non-conformances.	
Q12_2	Explore possible relationship with Excellence Canada.	



Michael A Noble MD FRCPC
Chair

CMPT COMMUNICATIONS

CMPT recognizes that good communication with the program's participants and general public interest in quality assessment are essential for the success of a program like ours.

CONTACT CMPT

By mail:

Room 328A, 2733 Heather Street
Vancouver, BC, V5Z 1M9, Canada

By phone:

- Telephone: 604-875-4685 or
(toll free) 1-866-579-CMPT (2678)
- Facsimile: 604-875-4100 or
(toll free) 1-866-580-CMPT (2678)

By e-mail:

CMPT Coordinator: info@cmpt.ca

Esther will be pleased to answer any questions you may have about any of the CMPT programs.

FEEDBACK

CMPT welcomes and encourages all CMPT participants to forward their e-mail addresses to Esther Kwok for inclusion in the e-mail list.

CMPT values feedback from its participants and client satisfaction is very important to us.

Through our Client Satisfaction Surveys we can assess our performance, recognize the weaknesses, and focus on improvement.

CMPT is now able to perform client satisfaction surveys electronically, which allows the client to complete the survey in a few minutes and CMPT to collect and analyze the data easily.

The results of this year's surveys are commented on

the Chairman's Annual Report.

The CMPT web site plays a major role in communicating with our participants. The web site is used by Water Microbiology, Enteric Parasitology, and Clinical Bacteriology participants to access on-line data entry of survey results.

CMPT'S WEBSITE

www.cmpt.ca

Our website provides access to preliminary and final results and challenge critiques for all programs. The critiques, current and past, can be accessed at any time together with photographs and articles of interest to provide the best information and education resources.

The history of CMPT, program information, contact information, and announcements are also available on our web site.

CMPT NEWSLETTER

CMPT's quarterly newsletter, "Connections", is now in its 16th year. Originally in paper-format, it became an "on-line only" newsletter in 2004.

"Connections" continues to supplement program educational material and provides a forum for participant's letters to CMPT. It is also used for announcements including new standards, seminars, workshops, and news within CMPT.

As in the previous 15 years, articles covering diverse topics were published during 2011- 2012. We thank those who contributed their time and stories, submitted articles and helped with the newsletter edition; we appreciate their support of our newsletter.

COMMITTEE MEMBERS 2011 - 2012

Committee members volunteer their time and are essential for selecting challenges, assessing results, and producing the critiques. The efforts contributed by each committee member are critical to the function of CMPT and are very much appreciated.

Microbiology Advisory Committee Members

Clinical Bacteriology Program

Robert Rennie, PhD FCCM, D (ABMM)	University of Alberta Hospital, Edmonton, AB
Michelle Alfa, PhD FCCM	St. Boniface General Hospital, Winnipeg, MB
Beverley Borgford, ART	Yorkton Regional Hospital, Yorkton, SK
Deirdre Church, MD PhD FRCPC	Calgary Laboratory Services, Calgary, AB
John Galbraith, MD FRCPC	Royal Jubilee Hospital, Victoria, BC
David J. M. Haldane, MD FRCPC	Queen Elizabeth II Hospital, Halifax, NS
Vicki Krell, ART (CM)	Abbotsford Regional Hospital, Abbotsford, BC
Paul Levett PhD (D)ABMM FAAM	Saskatchewan Disease Control Laboratory, Regina, SK
Diane Roscoe, MD FRCPC	Vancouver General Hospital, Vancouver, BC
Denise Sitter, ART	Cadham Provincial Laboratory, Winnipeg, MB
Beverley Miller, MLT	Calgary Laboratory Services, Calgary, AB
Tammie Wilcox-Carrier, ART	Moncton Hospital, Moncton, NB

Water Microbiology Program

Chris Enick, BSc	Exova, Surrey, BC
Joe Fung, BSc MPH	BCCDC Environmental Microbiology, Vancouver, BC

Mycology Program

Robert Rennie, PhD FCCM, D(ABMM)	University of Alberta Hospital, Edmonton, AB
Romina Reyes MD FRCPC	LifeLabs, Burnaby, BC
Jeff Fuller FCCM, (D)	University of Alberta Hospital, Edmonton, AB

Enteric Parasitology Program

Tara Bonham RT	BC Biomedical Laboratories, Surrey, BC
Sylvie Champagne, MD FRCPC	St. Paul's Hospital, Vancouver, BC
Joan Tomblin, MD FRCPC	BC Biomedical Laboratories, Surrey, BC
Quantine Wong, BSc	BCCDC Laboratory, Vancouver, BC

CLINICAL BACTERIOLOGY PROGRAM

CMPT acknowledges with appreciation the valuable and essential advisory and technical support of:

Dr. Robert Rennie, Dr. Michelle Alfa, Ms. Beverley Borgford, Dr. Deirdre Church, Dr. John Galbraith, Dr. David J. M. Haldane, Ms. Vicki Krell, Dr. Diane Roscoe, Ms. Denise Sitter, Ms. Beverley Miller, Ms. Tammie Wilcox-Carrier, and Dr. Paul Levett.

CMPT's EQA Programs are designed to fit the needs of a variety of laboratory sizes and capabilities. In 1996, four categories were defined. In 2002 it was agreed that it was up to the laboratory to choose the category to which they belong, which was ratified by their accreditation bodies.

Laboratory categories

A: Large laboratories that perform critical specimens (blood cultures, cerebrospinal fluid, etc.).

B: Intermediate laboratories that have substantial volume, but may not perform all critical specimen types, including blood cultures.

C: Small laboratories that test urine and throat cultures, and refer the rest.

C1: Set-up facilities only; may perform Gram staining; they address pre-analytic issues.

Clinical bacteriology surveys are shipped 4 times per year. Each survey can consist up to seven different

Program Overview

types of samples depending on the category of the lab and the challenges they require:

Gram Smear: evaluates gram staining, analysis, and interpretation.

Simulated clinical samples: these samples simulate a wide variety of samples of different complexity of analysis. Depending on the sample and the microorganisms isolated, the challenge could require - apart from isolation and identification - susceptibility testing and notification to public health or infection control.

Clostridium difficile toxin samples: optional program that includes simulated stool sample for the investigation of *C. difficile* toxin.

Paper challenge: directed towards pre- and post- examination phases of microbiology laboratory sampling.

Gram Smear Supplementary: optional program introduced in August 2009, to be used in addition to the Gram Smear challenge currently in the program.

Gram smear and simulated clinical samples are sent in every survey; paper challenges and *C. difficile* toxin samples alternate, and gram smear supplementary samples are sent twice a year.

CLINICAL BACTERIOLOGY PROGRAM

Only category A laboratories receive all samples, category B, C, and C1 laboratories receive samples according to their capabilities.

Clinical Bacteriology Numeric Grading Scheme

Table 2. Clinical bacteriology numeric grading scheme guideline.

Grade	Interpretation	Definition and examples
4	Full value	Accepted by the committee as the correct answer either in terms of current nomenclature or in terms of appropriate clinical relevancy, including listing pathogen-specific negative results, correct Antimicrobial Profile Reporting and/or descriptive reporting, e.g. MRSA, ESBL producer, VRE, Notification of Public Health.
3	Essentially correct or acceptable	A nomenclature or susceptibility error, generally at the species level, not technically correct but would have little or no clinical impact. A deviation from what is considered the most clinically relevant result, but one which would pose little difficulty in interpretation of the sample's report. For example: <i>Staphylococcus hominis</i> vs. <i>Staphylococcus epidermidis</i> , <i>Enterobacter aerogenes</i> vs. <i>Enterobacter cloacae</i> , Susceptible vs. intermediate. Excessive over-reporting of susceptibility testing results (calculated as minus-1 from the full value).
2	Separator	To augment the difference between the two grading groups. A grade of 2 is not awarded.
1	Incorrect or unacceptable	A nomenclature error that would be wrong at the species level, but by reporting may have an impact on clinical interpretation and potentially a treatment error. A major susceptibility error. A clinical relevancy result that could lead to a diagnosis or treatment error. For example: <i>Corynebacterium jeikeium</i> vs. diphtheroids; <i>Staphylococcus aureus</i> vs. <i>Staphylococcus epidermidis</i> , Identify VSE as VRE. Reporting the presence of <i>Neisseria meningitidis</i> from a throat swab.
0	Very incorrect or very unacceptable	A nomenclature error that would be wrong at either the genus and species level or a very major susceptibility error that could result in a significant interpretation or treatment error. A clinical relevancy result that could lead to a major diagnosis or treatment error. For example: <i>Salmonella</i> species vs. <i>Citrobacter</i> species; <i>Escherichia coli</i> vs. <i>Shigella dysenteriae</i> ; <i>Burkholderia cenocepacia</i> vs. <i>Pseudomonas aeruginosa</i> . Identify <i>Neisseria meningitidis</i> in a blood culture as a contaminant. Identify VRE as VSE. Reporting <i>S. aureus</i> and <i>Escherichia coli</i> in a mixed blood culture as 'probable contaminants'.
Ungraded		Challenges can be ungraded because acceptability for assessment was not achieved; this means no consensus was achieved amongst the reference laboratories with respect to the results for a specific sample.

SCORE TABLES AND HISTOGRAMS 2011-2012

About the histograms

All histograms have been converted to a single format which is the percent achievable score. For each laboratory, the sum of all challenges performed and graded was calculated, either as a total for all challenges, or within a specific category, such as "bacterial identification". The total achievable score, that is the score the laboratory would have obtained if they received a grade of 4/4, for each graded challenge was calculated. Challenges that were ungraded were excluded. The percent achievable score was calculated as (total achieved score/total achievable score) X100.

How to read the histograms

The companion histogram graph shows the Score Table information and Cumulative Scoring. The number of laboratories getting a specific grade is indicated by the height of the columns over the Percent Achievable Score, and is read on the LEFT side scale of the chart.

The Cumulative Scoring is indicated by the connected box-line that starts low on the left and rises to the right, and is read on the RIGHT side scale of the chart. The cumulative column indicates that percentage of laboratories that received an acceptable grade on the challenge.

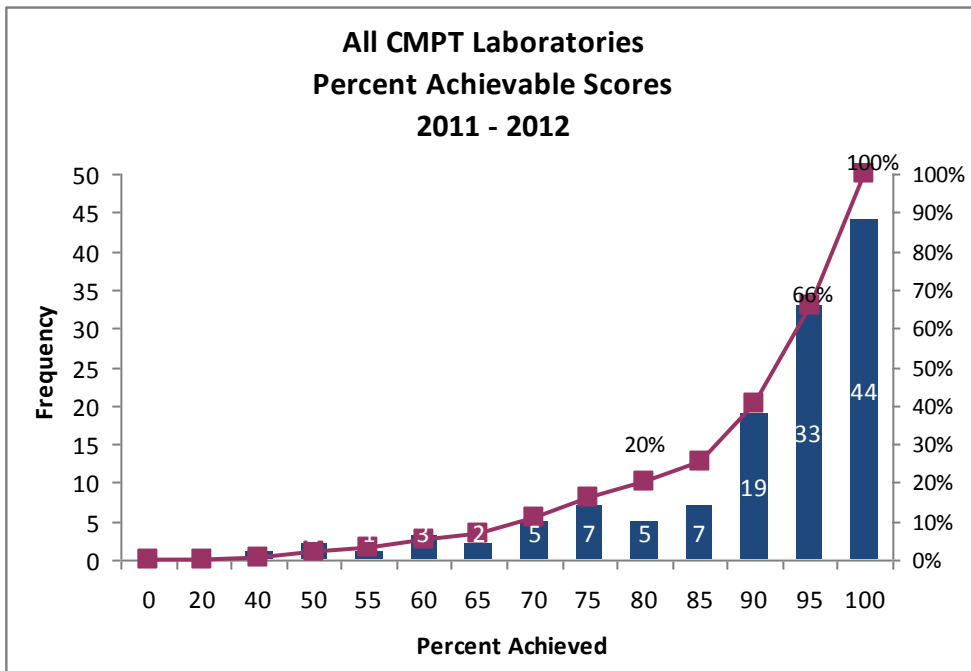
SCORE TABLE & HISTOGRAM INDEX 2011-2012

Clinical Bacteriology

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Clinical Bacteriology - All Challenges - All Laboratories

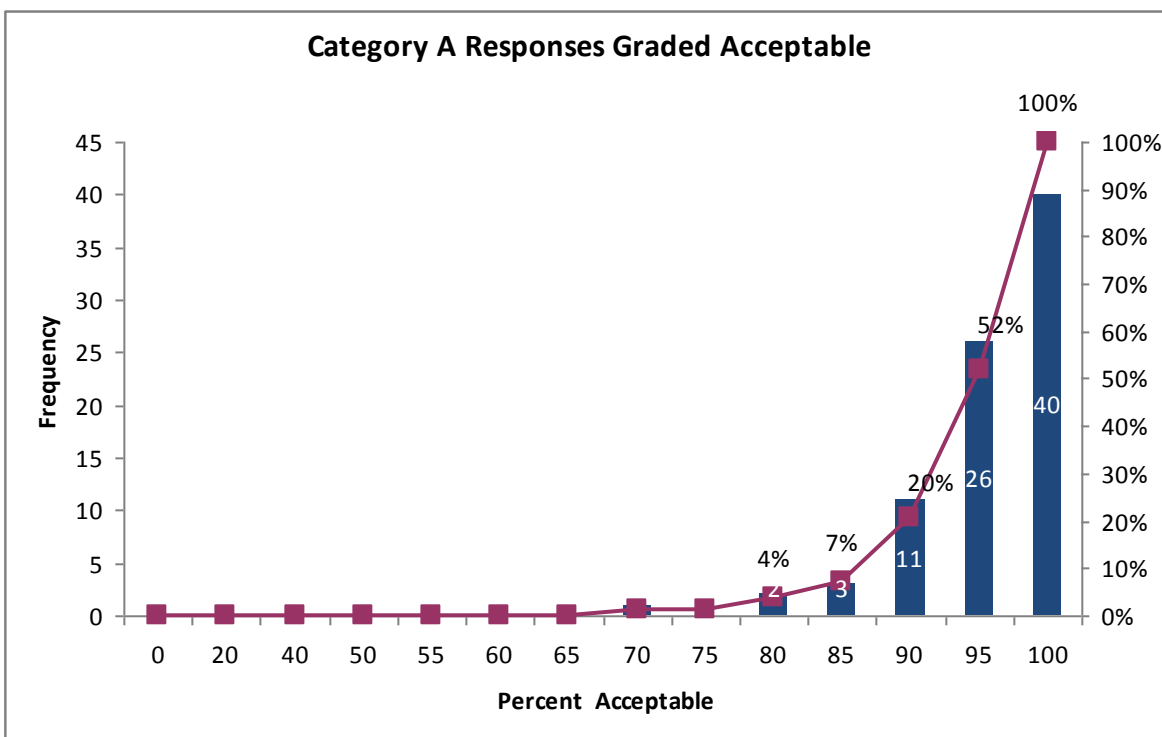
Score Table: 2011 – 2012 Percentage of laboratories with acceptable grades		
% acceptable grade	Laboratories (n=128)	Cumulative
50	2	2.33%
55	1	3.10%
60	3	5.43%
65	2	6.98%
70	5	10.85%
75	7	16.28%
80	5	20.16%
85	7	25.58%
90	19	40.31%
95	33	65.89%
100	44	100.00%



Out of all 128 laboratories, 44 (34%) received a perfect score; overall, 108 (84%) received a score of 80% or greater.

Clinical Bacteriology - Category A Laboratories

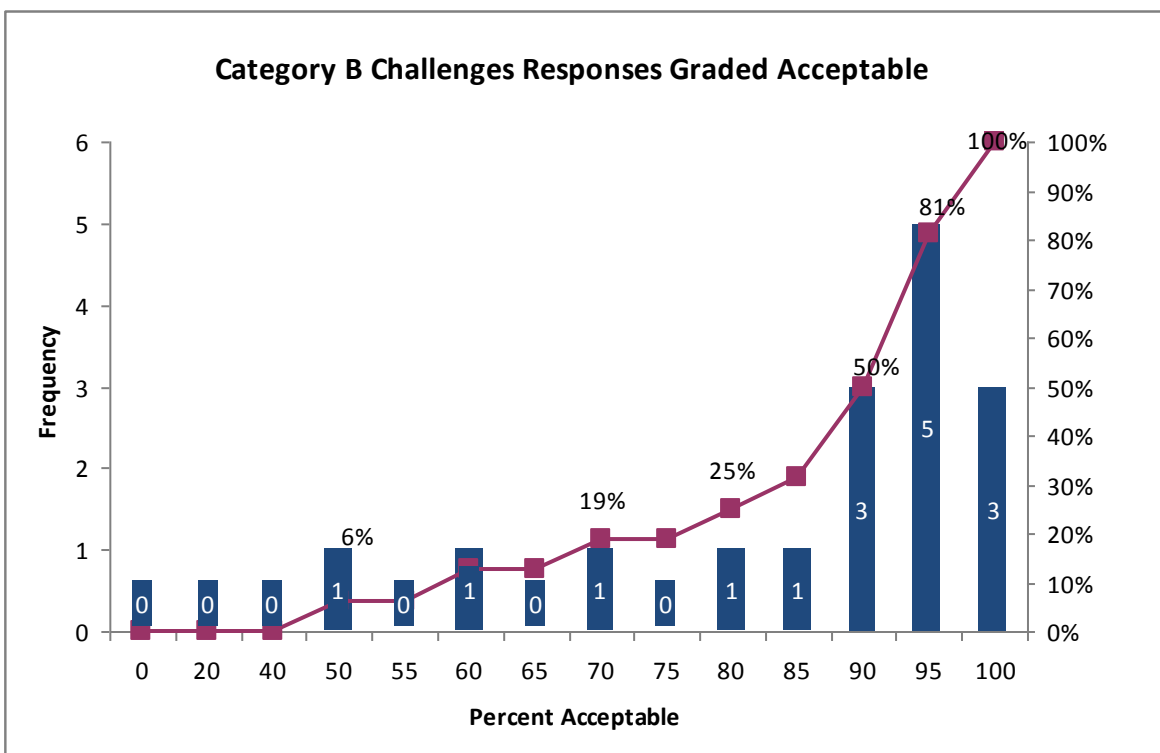
Score Table: Percentage of responses graded acceptable 2011 - 2012 Category A labs		
% Acceptable responses	Laboratories (n=83)	Cumulative
70	1	1.20%
75	0	1.20%
80	2	3.61%
85	3	7.23%
90	11	20.48%
95	26	51.81%
100	40	100.00%



48% of category A laboratories received acceptable grades in all performed challenges. 96% of category A laboratories received acceptable grades in at least 80% of the challenges.

Clinical Bacteriology - Category B Laboratories

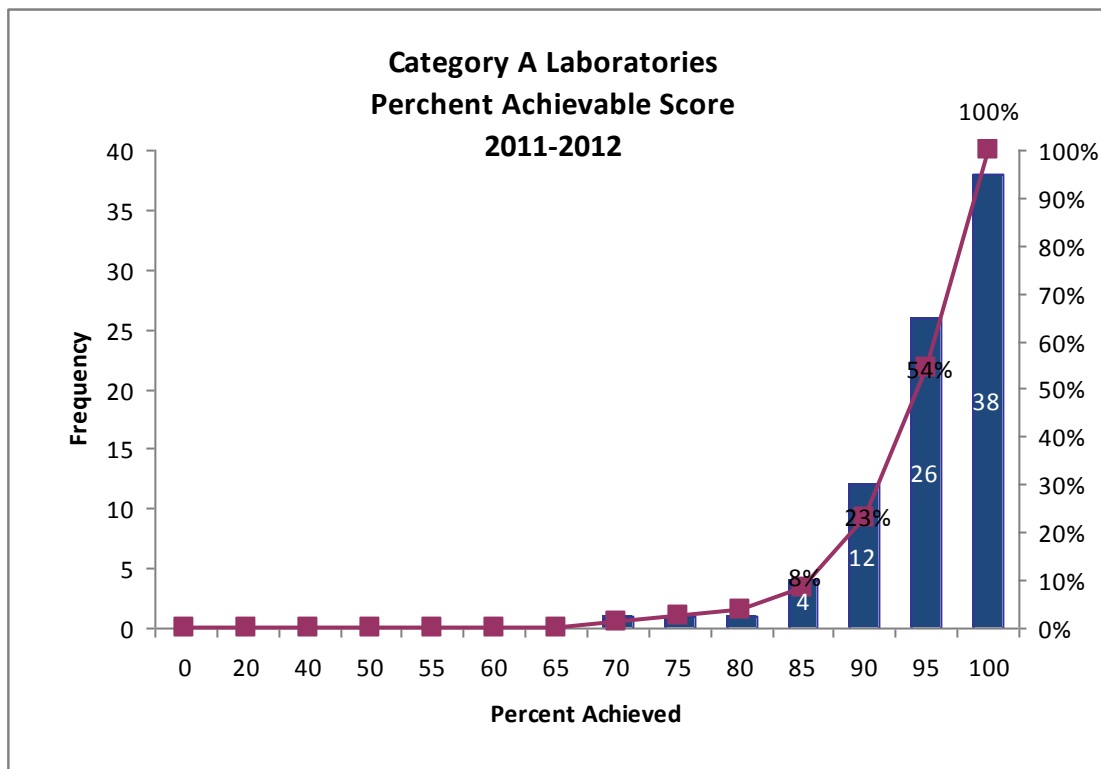
Score Table: Percentage of responses graded acceptable 2011 - 2012 Category B labs		
% Acceptable responses	Laboratories (n=16)	Cumulative
50	1	6.25%
55	0	6.25%
60	1	12.50%
65	0	12.50%
70	1	18.75%
75	0	18.75%
80	1	25.00%
85	1	31.25%
90	3	50.00%
95	5	81.25%
100	3	100.00%



81% of category B laboratories received acceptable grades in at least 80% of the challenges.

Clinical Bacteriology - Category A Laboratories

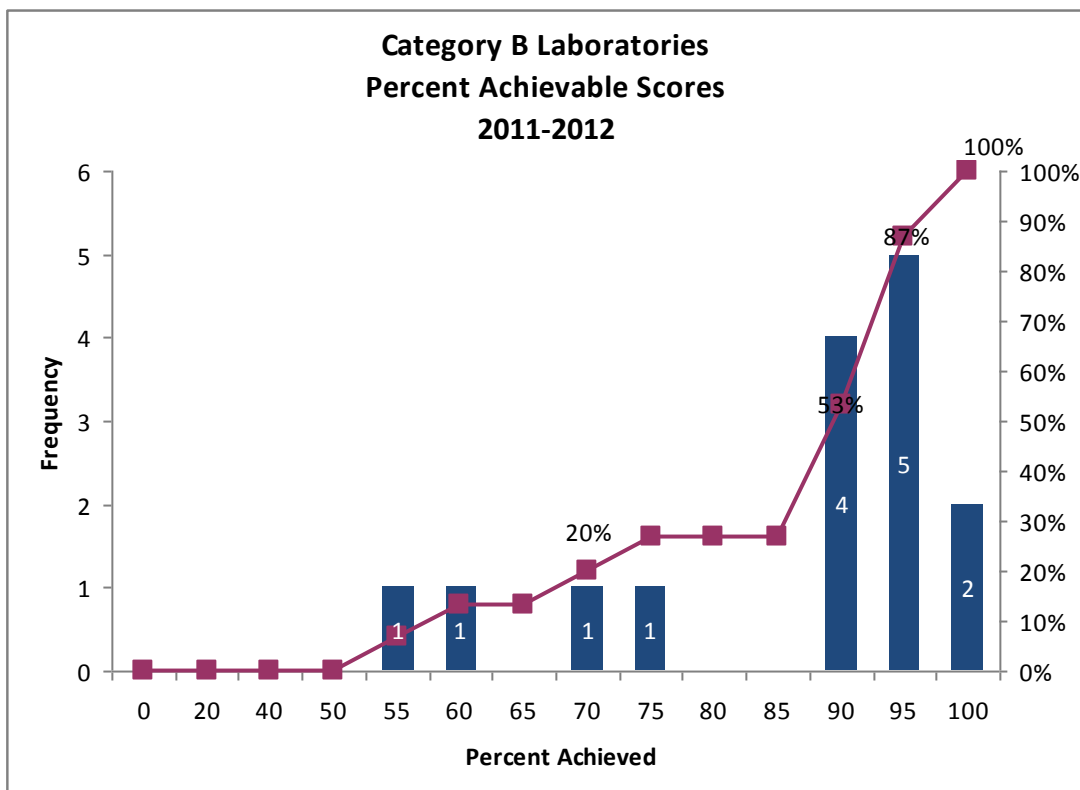
Score Table: 2012 – 2012 Percentage of category A laboratories with acceptable grades		
% acceptable grade	Laboratories (n=83)	Cumulative
70	1	1.20%
75	1	2.41%
80	1	3.61%
85	4	8.43%
90	12	22.89%
95	26	54.22%
100	38	100.00%



Out of 83 category A laboratories, 80 (96%) received a perfect score; 81 laboratories received a score of 80% or higher.

Clinical Bacteriology - Category B Laboratories

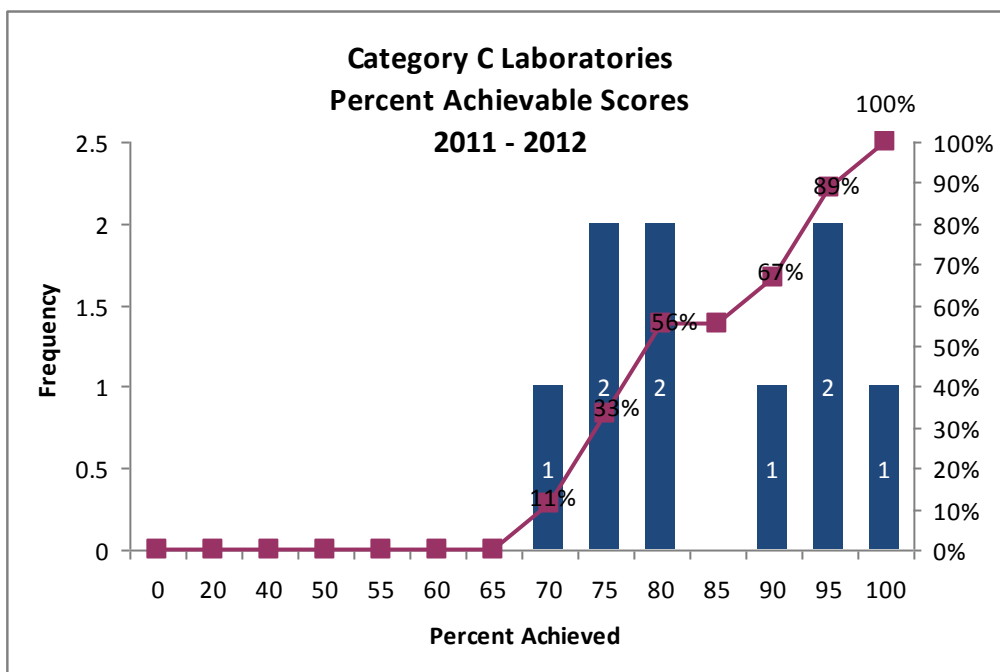
Score Table: 2011 – 2012 Percentage of category B laboratories with acceptable grades		
% acceptable grade	Laboratories (n=15)	Cumulative
55	1	6.67%
60	1	13.33%
65	0	13.33%
70	1	20.00%
75	1	26.67%
80	0	26.67%
85	0	26.67%
90	4	53.33%
95	5	86.67%
100	2	100.00%



Out of 15 category B laboratories, 11 (73%) received scores of 80% or higher.

Clinical Bacteriology - Category C Laboratories

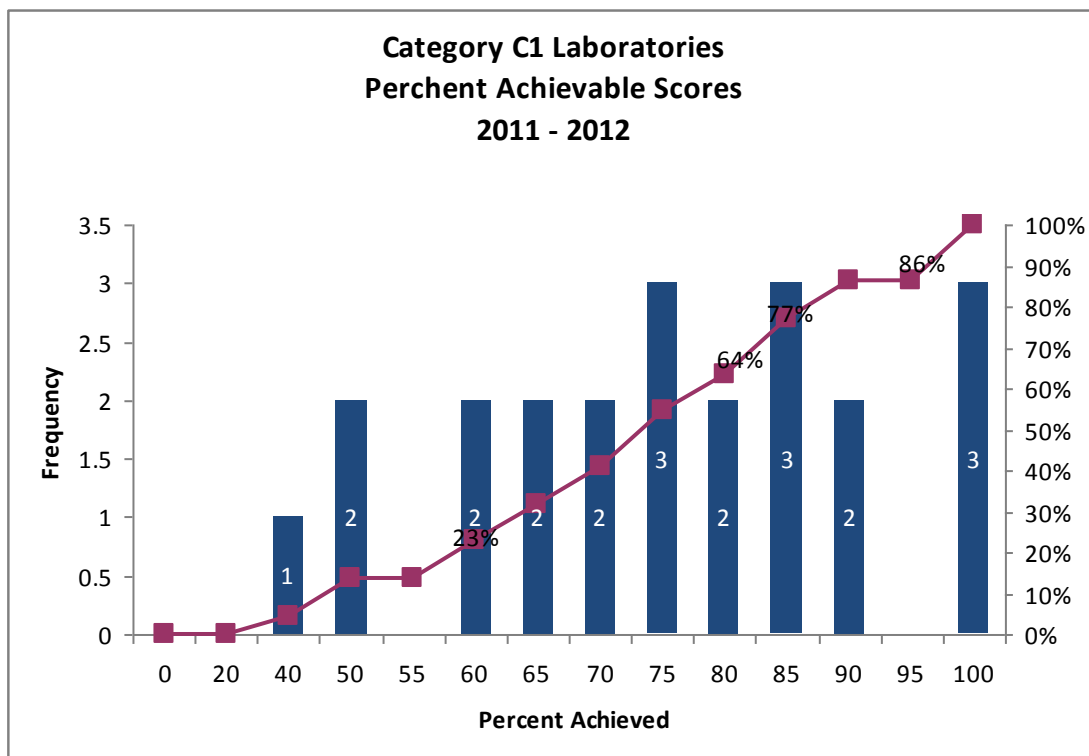
Score Table: 2011 – 2012 Percentage of category C laboratories with acceptable grades		
% acceptable grade	Laboratories (n=9)	Cumulative
70	1	11.11%
75	2	33.33%
80	2	55.56%
85	0	55.56%
90	1	66.67%
95	2	88.89%
100	1	100.00%



Out of 9 category C laboratories, 6 (67%) received scores of 80% or higher.

Clinical Bacteriology - Category C1 Laboratories

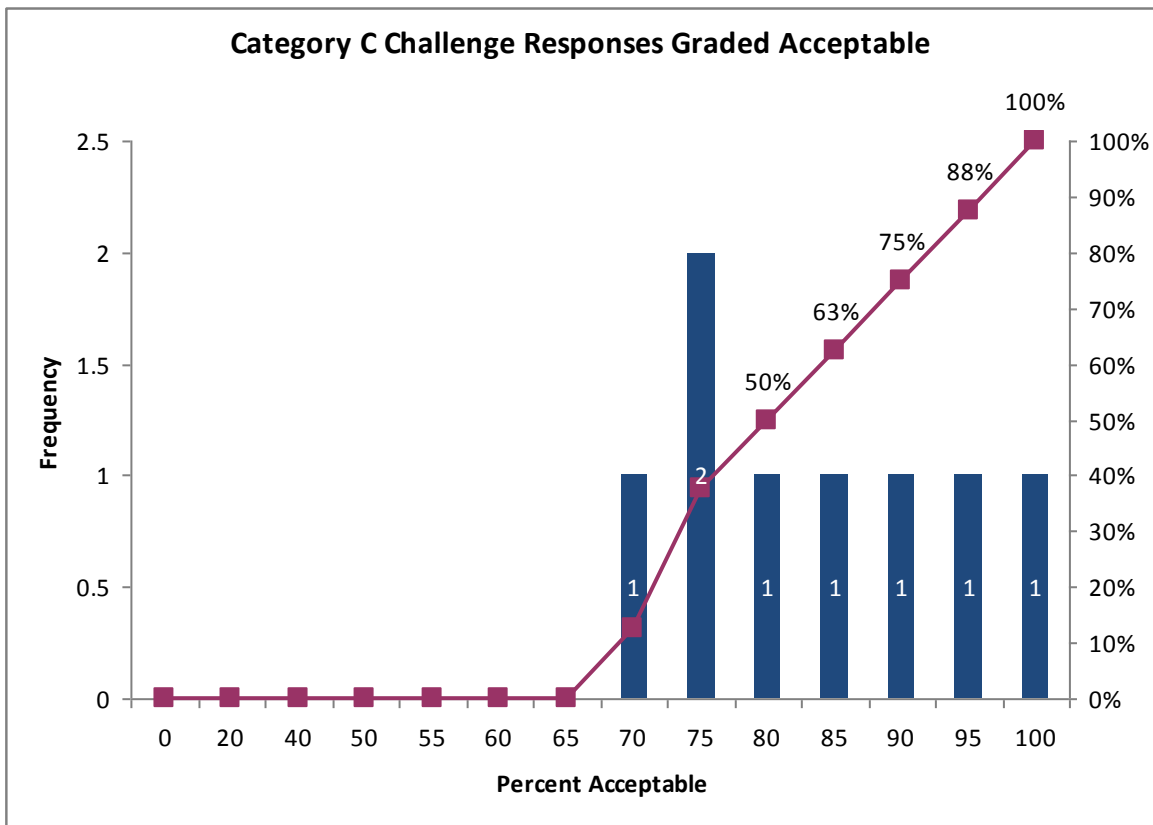
Score Table: 2011 – 2012 Percentage of category C1 laboratories with acceptable grades		
% acceptable grade	Laboratories (n=22)	Cumulative
40	1	4.55%
50	2	13.64%
55	0	13.64%
60	2	22.73%
65	2	31.82%
70	2	40.91%
75	3	54.55%
80	2	63.64%
85	3	77.27%
90	2	86.36%
95	0	86.36%
100	3	100.00%



Out of 22 category C1 laboratories, 10 (45%) received scores of 80% or higher.

Clinical Bacteriology - Category C Laboratories

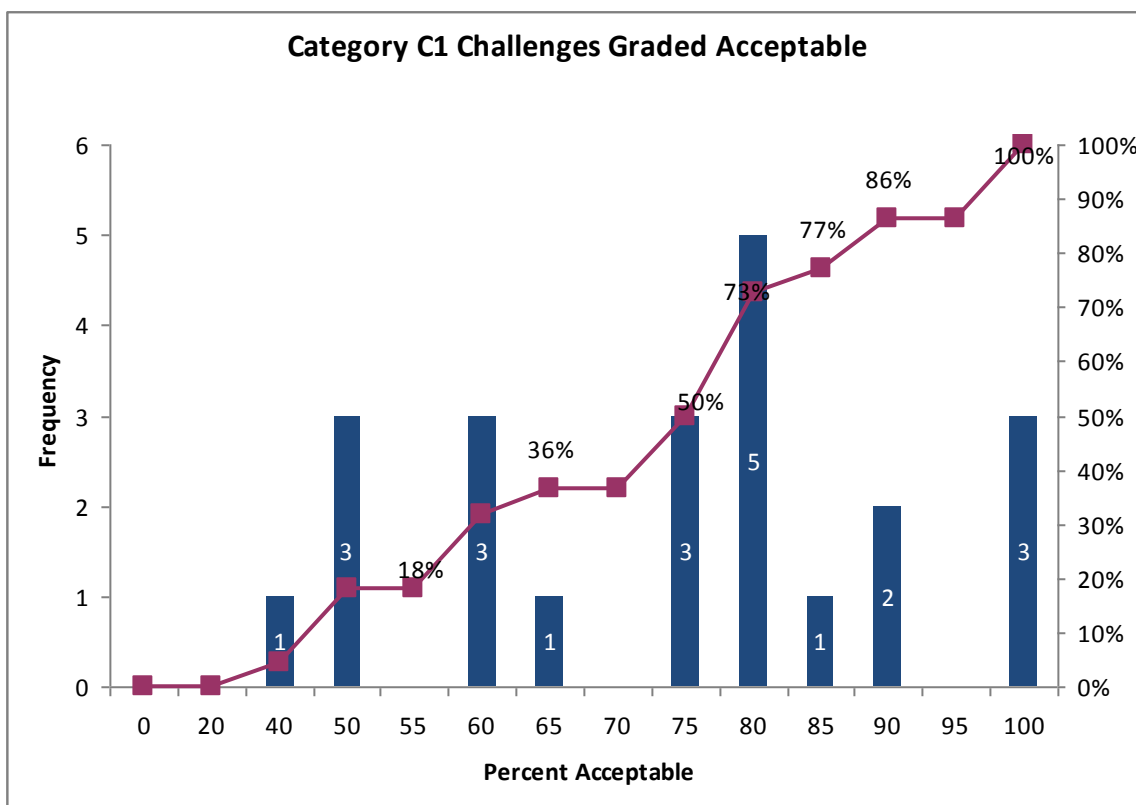
Score Table: Percentage of responses graded acceptable 2011 - 2012 Category C labs		
% Acceptable responses	Laboratories (n=8)	Cumulative
70	1	12.50%
75	2	37.50%
80	1	50.00%
85	1	62.50%
90	1	75.00%
95	1	87.50%
100	1	100.00%



All category C laboratories received acceptable grades in at least 70% of the challenges.

Clinical Bacteriology - Category C1 Laboratories

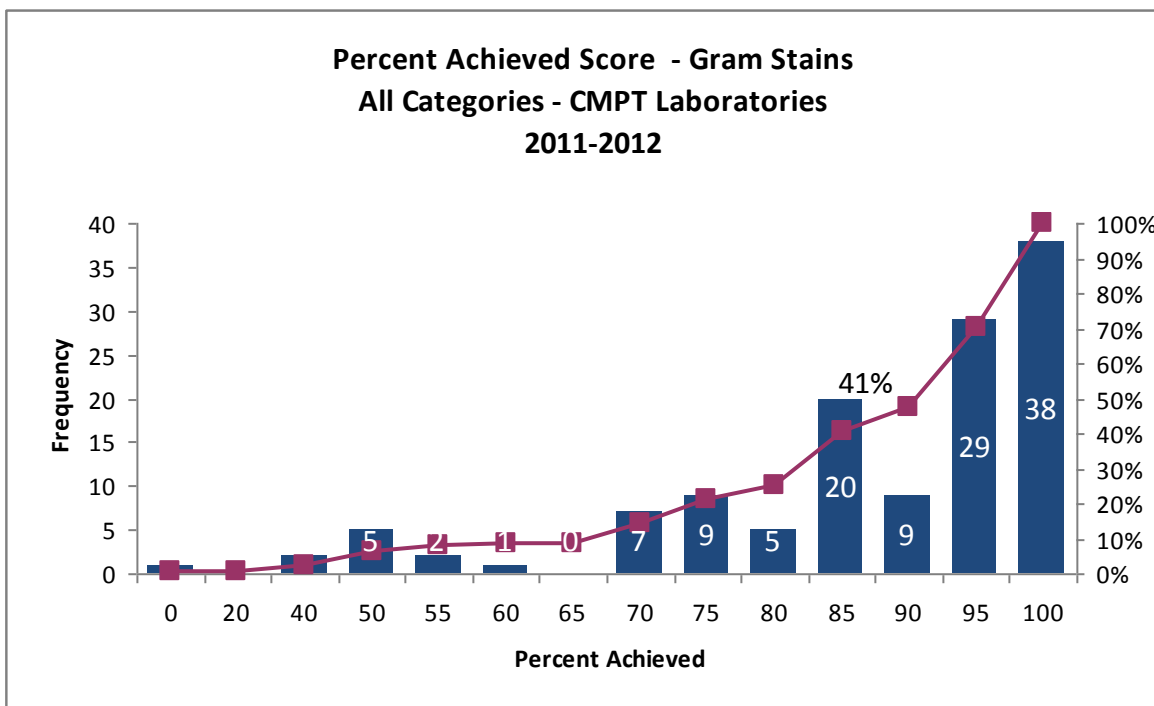
Score Table: Percentage of responses graded acceptable 2011 - 2012 Category C1 labs		
% Acceptable responses	Laboratories (n=22)	Cumulative
40	1	4.55%
50	3	18.18%
55	0	18.18%
60	3	31.82%
65	1	36.36%
70	0	36.36%
75	3	50.00%
80	5	72.73%
85	1	77.27%
90	2	86.36%
95	0	86.36%
100	3	100.00%



64% of category C1 laboratories received acceptable grades in at least 75% of the challenges.

Gram Stain Challenges - All Laboratories

Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grades	Laboratories (n=128)	Cumulative
0	1	0.78%
20	0	0.78%
40	2	2.34%
50	5	6.25%
55	2	7.81%
60	1	8.59%
65	0	8.59%
70	7	14.06%
75	9	21.09%
80	5	25.00%
85	20	40.63%
90	9	47.66%
95	29	70.31%
100	38	100.00%

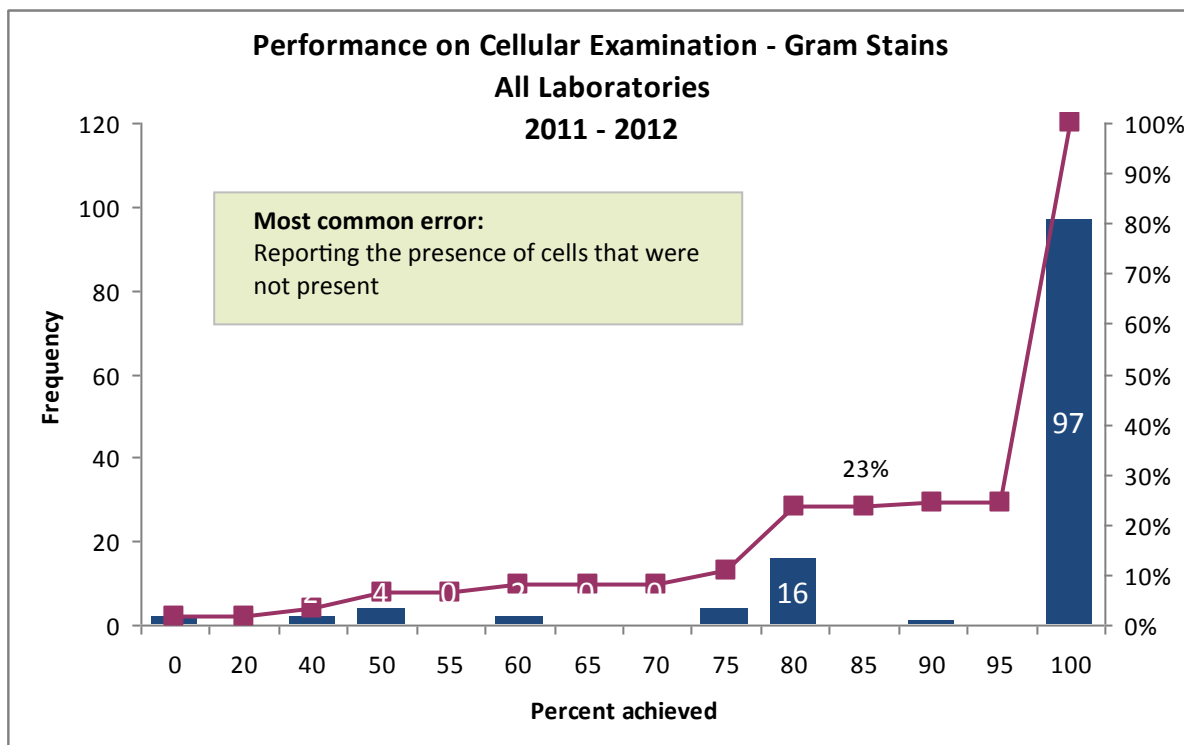


Out of 128 laboratories, 101 (79%) received scores of 80% or higher.

Gram Stain Challenges

Gram Stain Challenges - All Laboratories

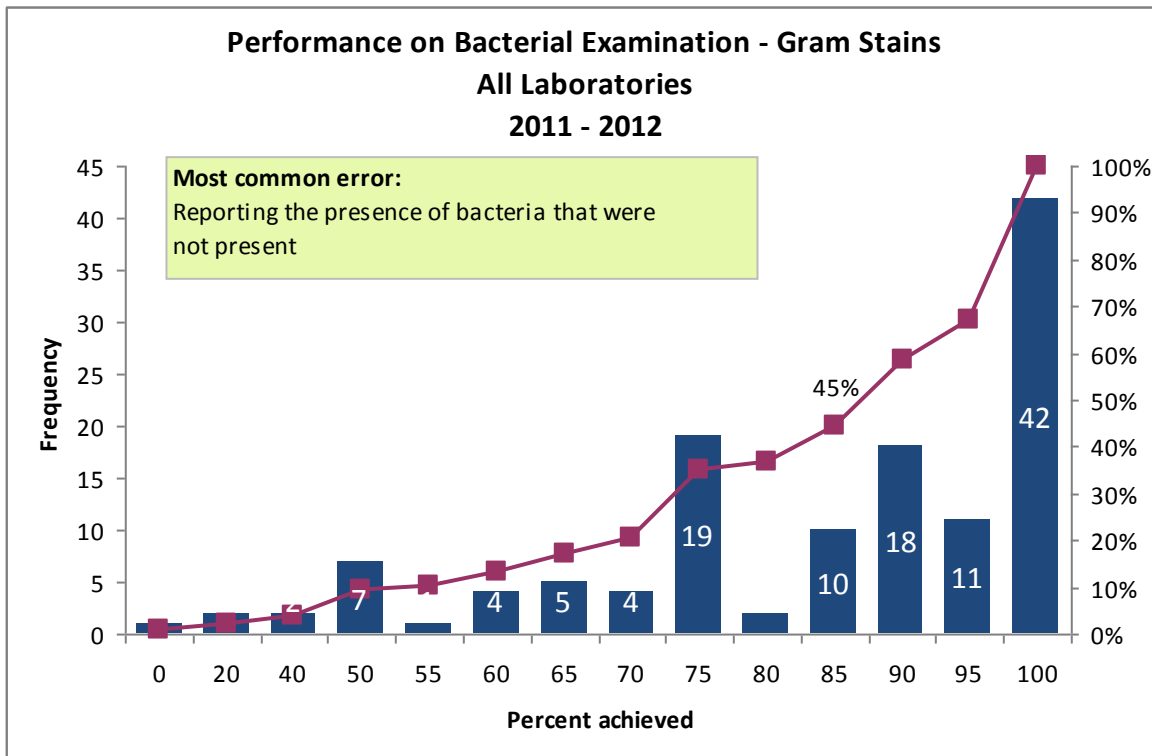
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grades	Laboratories (n=128)	Cumulative
0	2	1.56%
20	0	1.56%
40	2	3.13%
50	4	6.25%
55	0	6.25%
60	2	7.81%
65	0	7.81%
70	0	7.81%
75	4	10.94%
80	16	23.44%
85	0	23.44%
90	1	24.22%
95	0	24.22%
100	97	100.00%



Out of 128 laboratories, 97 (76%) received a perfect score; 89% of the laboratories received scores of 80% or higher.

Gram Stain Challenges - All Laboratories

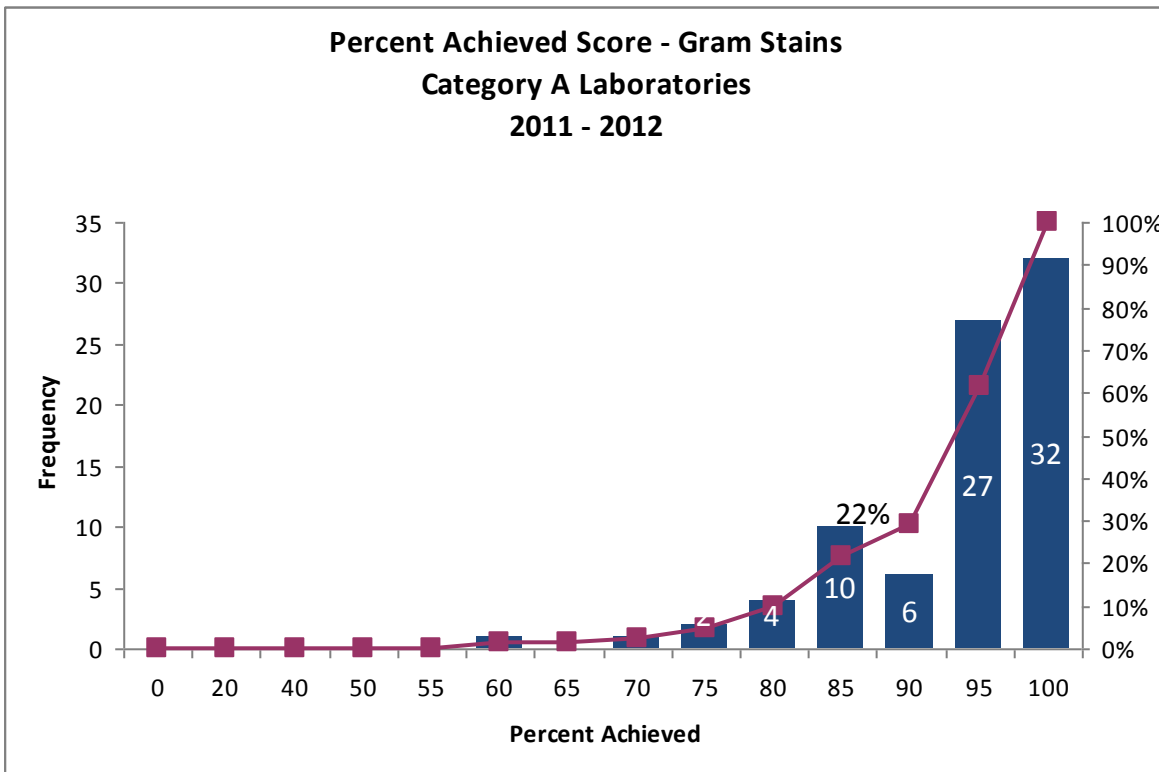
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grades	Laboratories (n=128)	Cumulative
0	1	0.78%
20	2	2.34%
40	2	3.91%
50	7	9.38%
55	1	10.16%
60	4	13.28%
65	5	17.19%
70	4	20.31%
75	19	35.16%
80	2	36.72%
85	10	44.53%
90	18	58.59%
95	11	67.19%
100	42	100.00%



Out of 128 laboratories, 42 (33%) received a perfect score; 65% of the laboratories received scores of 80% or higher.

Gram Stain Challenges - Category A Laboratories

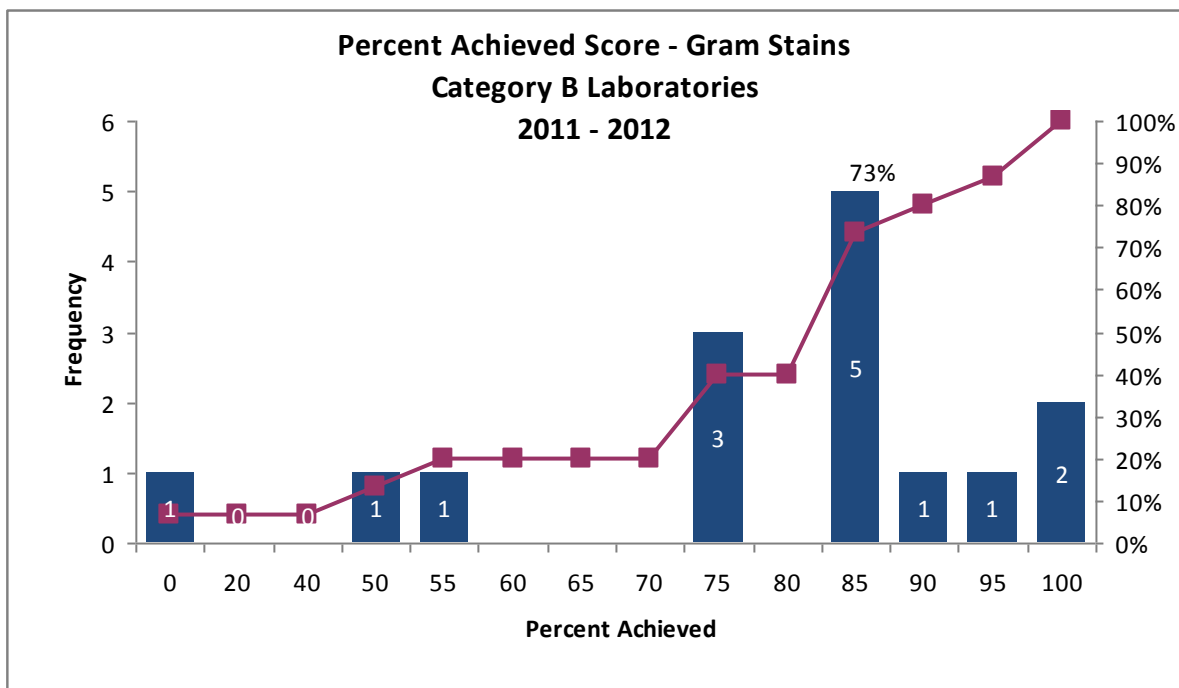
Score Table: 2011 – 2012 Percent of A laboratories with acceptable grades		
% acceptable grades	Laboratories (n=83)	Cumulative
60	1	1.20%
65	0	1.20%
70	1	2.41%
75	2	4.82%
80	4	9.64%
85	10	21.69%
90	6	28.92%
95	27	61.45%
100	32	100.00%



Out of 83 laboratories, 79 (95%) received scores of 80% or higher.

Gram Stain Challenges - Category B Laboratories

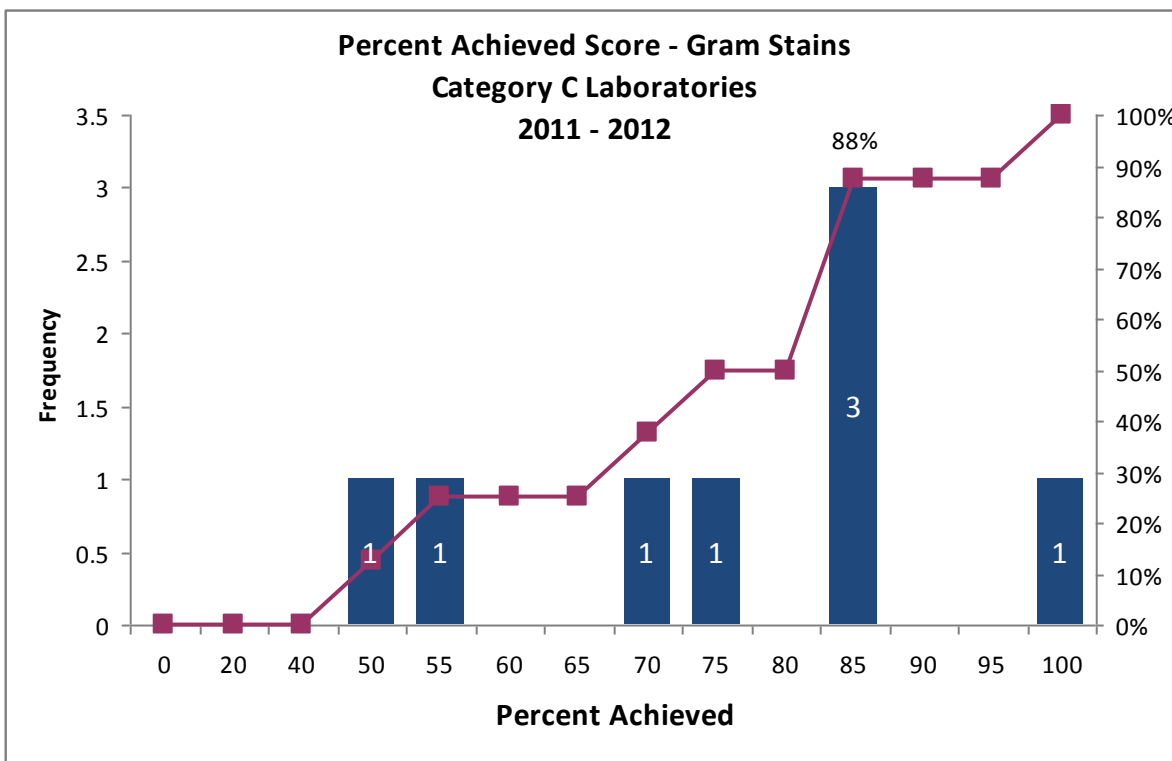
Score Table: 2011 – 2012 Percent of B laboratories with acceptable grades		
% acceptable grades	Laboratories (n=15)	Cumulative
0	1	6.67%
20	0	6.67%
40	0	6.67%
50	1	13.33%
55	1	20.00%
60	0	20.00%
65	0	20.00%
70	0	20.00%
75	3	40.00%
80	0	40.00%
85	5	73.33%
90	1	80.00%
95	1	86.67%
100	2	100.00%



Out of 15 laboratories, 9 (60%) received scores of 80% or higher.

Gram Stain Challenges - Category C Laboratories

Score Table: 2011 – 2012 Percent of C laboratories with acceptable grades		
% acceptable grades	Laboratories (n=8)	Cumulative
50	1	12.50%
55	1	25.00%
60	0	25.00%
65	0	25.00%
70	1	37.50%
75	1	50.00%
80	0	50.00%
85	3	87.50%
90	0	87.50%
95	0	87.50%
100	1	100.00%

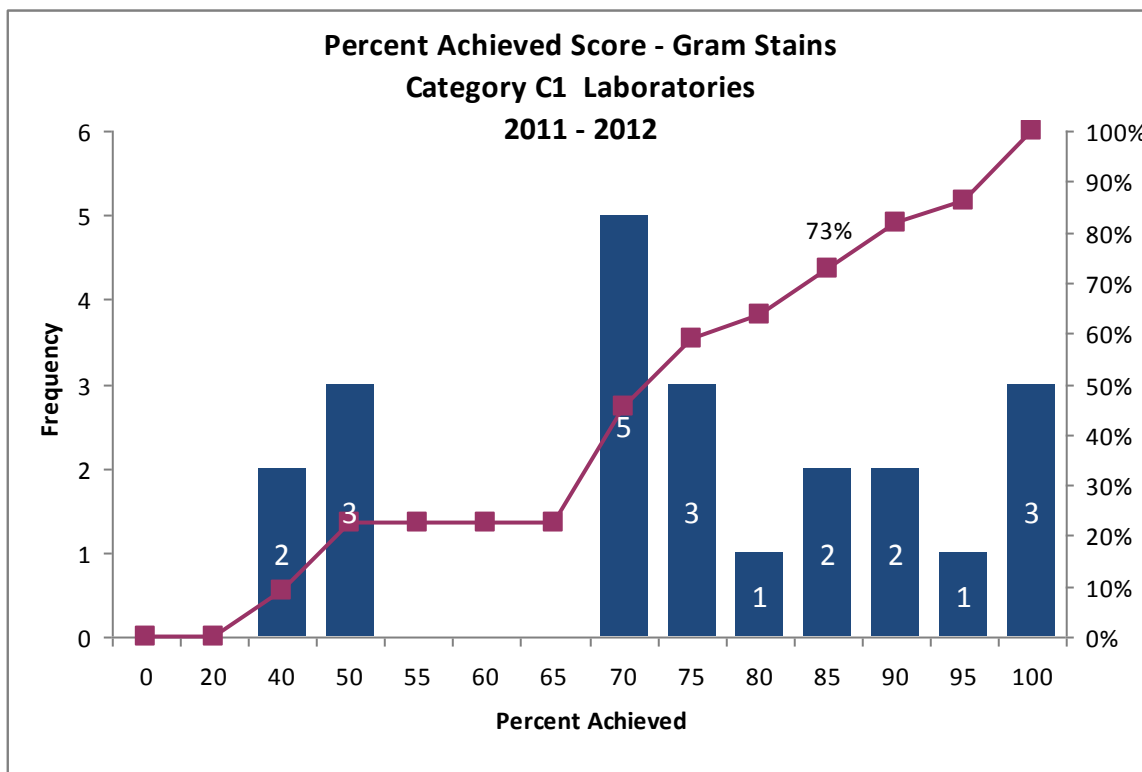


Out of 8 laboratories, 4 (50%) received scores of 80% or higher.

Gram Stain Challenges

Gram Stain Challenges - Category C1 Laboratories

Score Table: 2011 – 2012 Percent of C1 laboratories with acceptable grades		
% acceptable grades	Laboratories (n=22)	Cumulative
40	2	9.09%
50	3	22.73%
55	0	22.73%
60	0	22.73%
65	0	22.73%
70	5	45.45%
75	3	59.09%
80	1	63.64%
85	2	72.73%
90	2	81.82%
95	1	86.36%

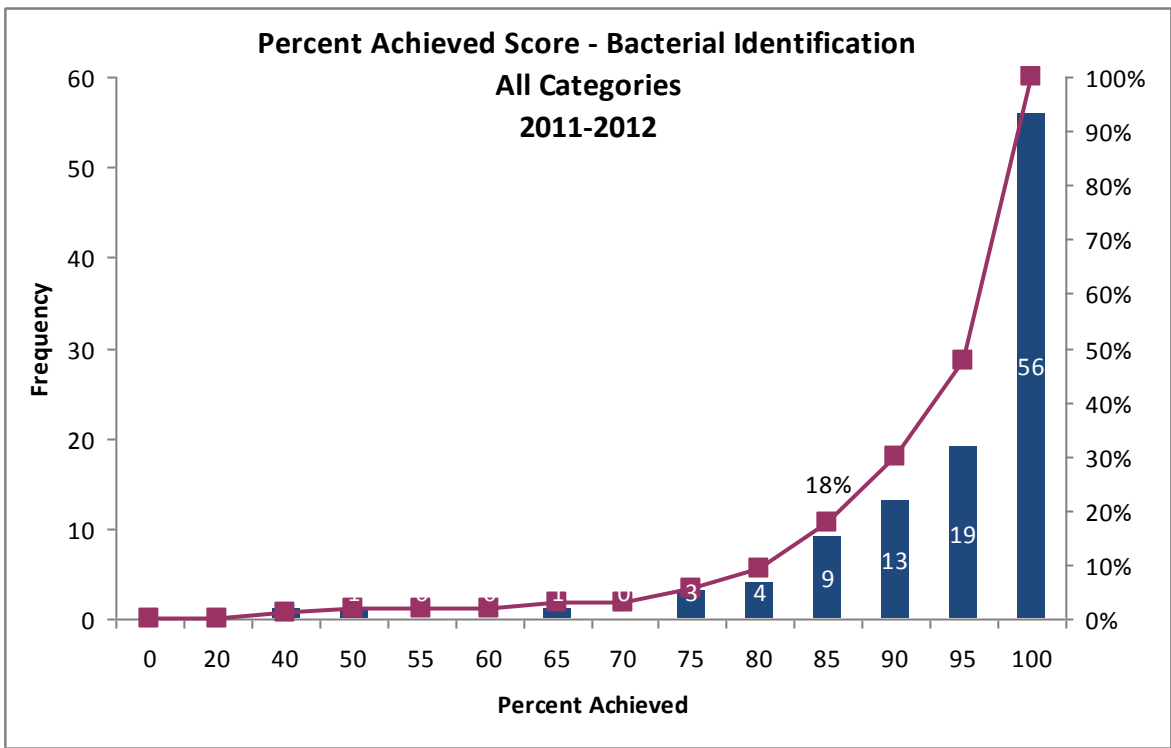


Out of 22 laboratories, 6 (27%) received scores of 80% or higher.

Gram Stain Challenges

Identification Challenges - All Laboratories

Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=107)	Cumulative
40	1	0.93%
50	1	1.87%
55	0	1.87%
60	0	1.87%
65	1	2.80%
70	0	2.80%
75	3	5.61%
80	4	9.35%
85	9	17.76%
90	13	29.91%
95	19	47.66%
100	56	100.00%

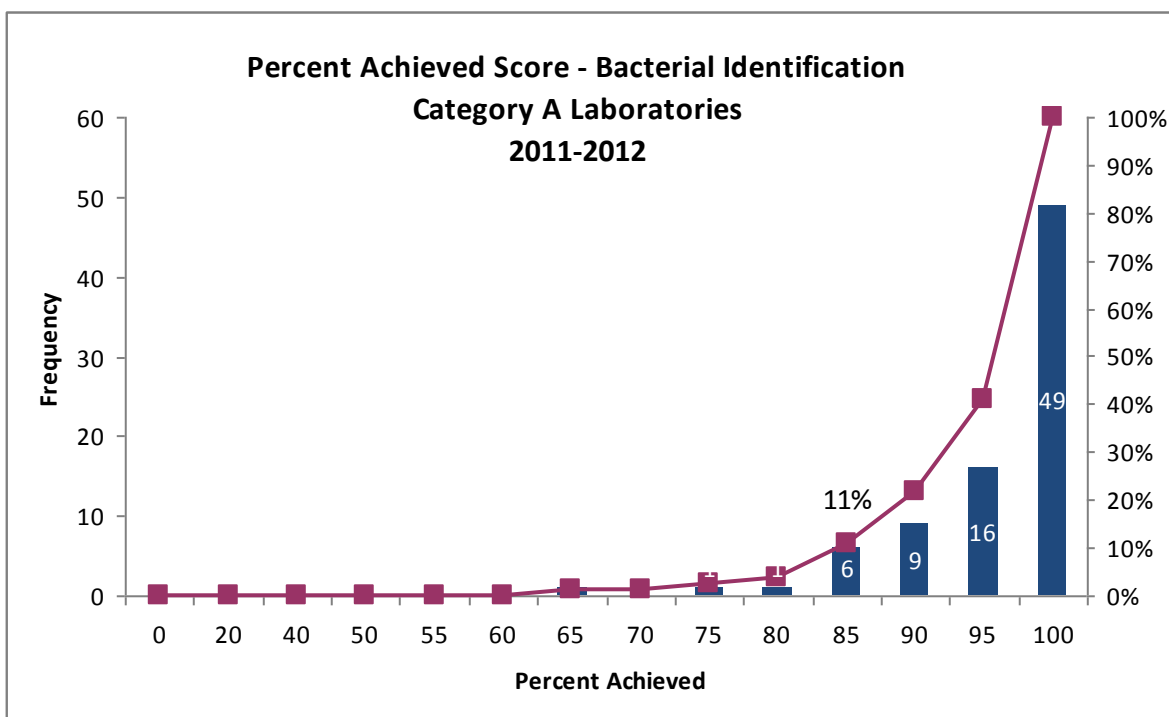


Out of 107 laboratories, 56 (52%) received a perfect score; 101 (94%) received scores of 80% or higher.

Identification Challenges

Identification Challenges - Category A Laboratories

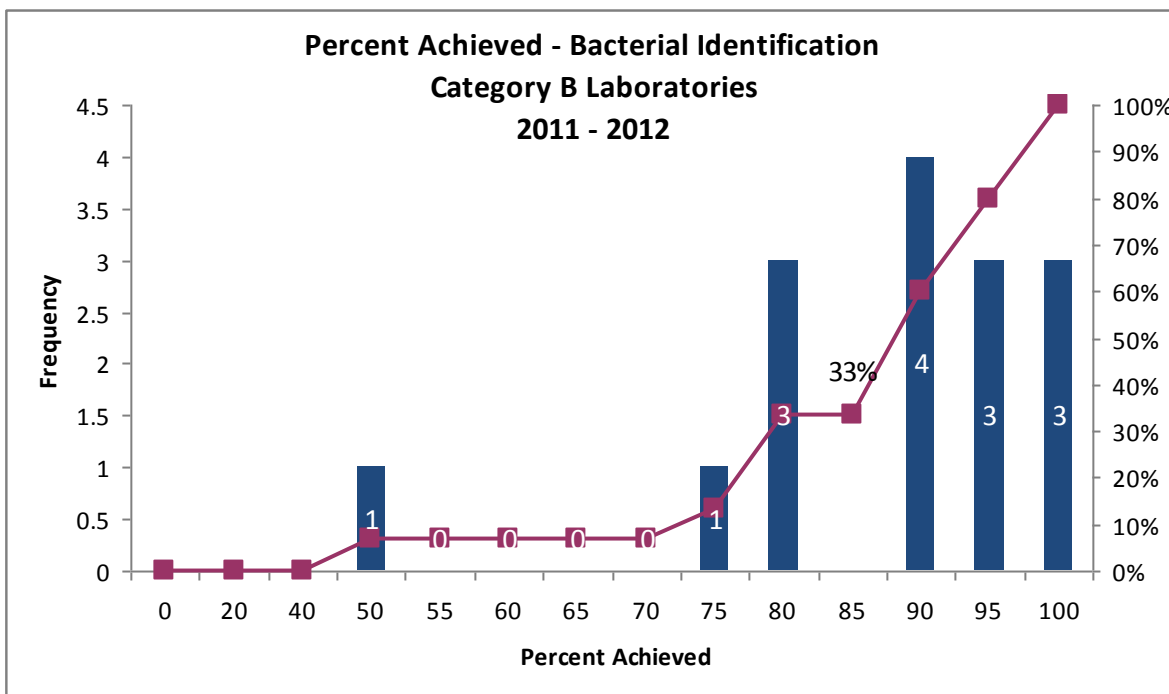
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=83)	Cumulative
65	1	1.20%
70	0	1.20%
75	1	2.41%
80	1	3.61%
85	6	10.84%
90	9	21.69%
95	16	40.96%
100	49	100.00%



Out of 83 laboratories, 49 (59%) received a perfect score; 98% of laboratories received scores of 80% or higher.

Identification Challenges - Category B Laboratories

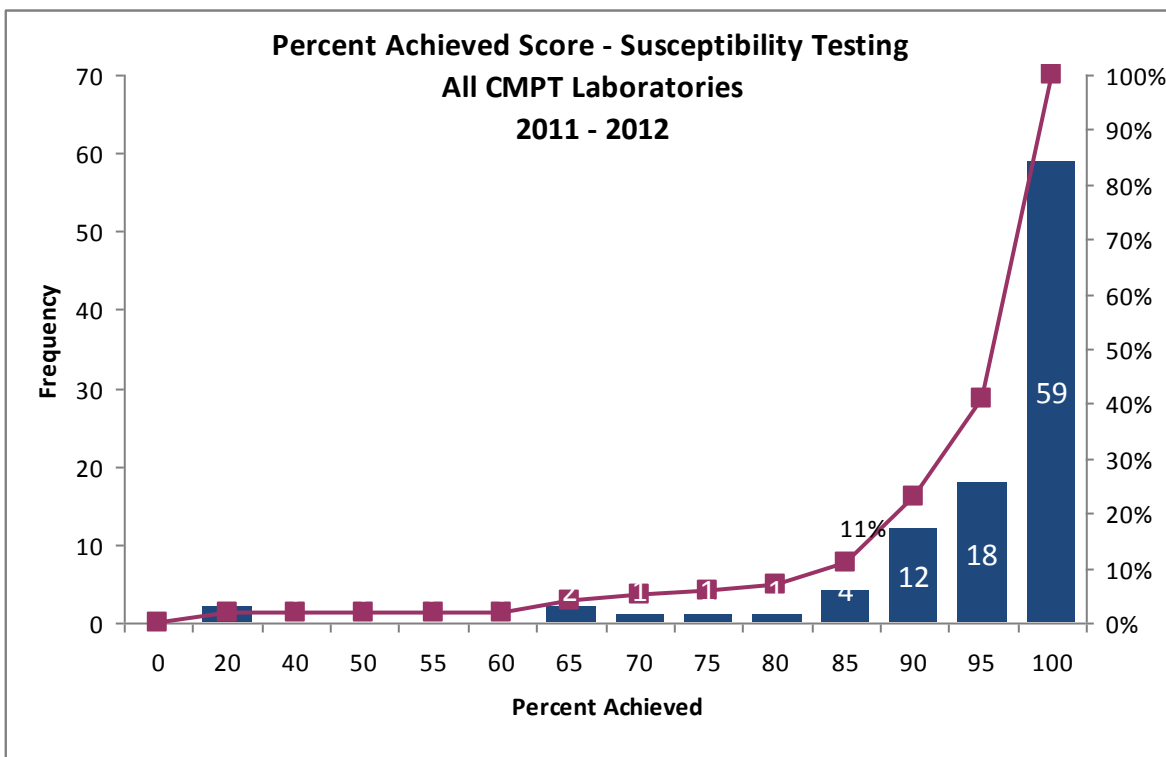
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=15)	Cumulative
50	1	6.67%
55	0	6.67%
60	0	6.67%
65	0	6.67%
70	0	6.67%
75	1	13.33%
80	3	33.33%
85	0	33.33%
90	4	60.00%
95	3	80.00%
100	3	100.00%



Out of 15 laboratories, 13 (87%) received scores of 80% or higher.

Antimicrobial Susceptibility Testing - All Laboratories

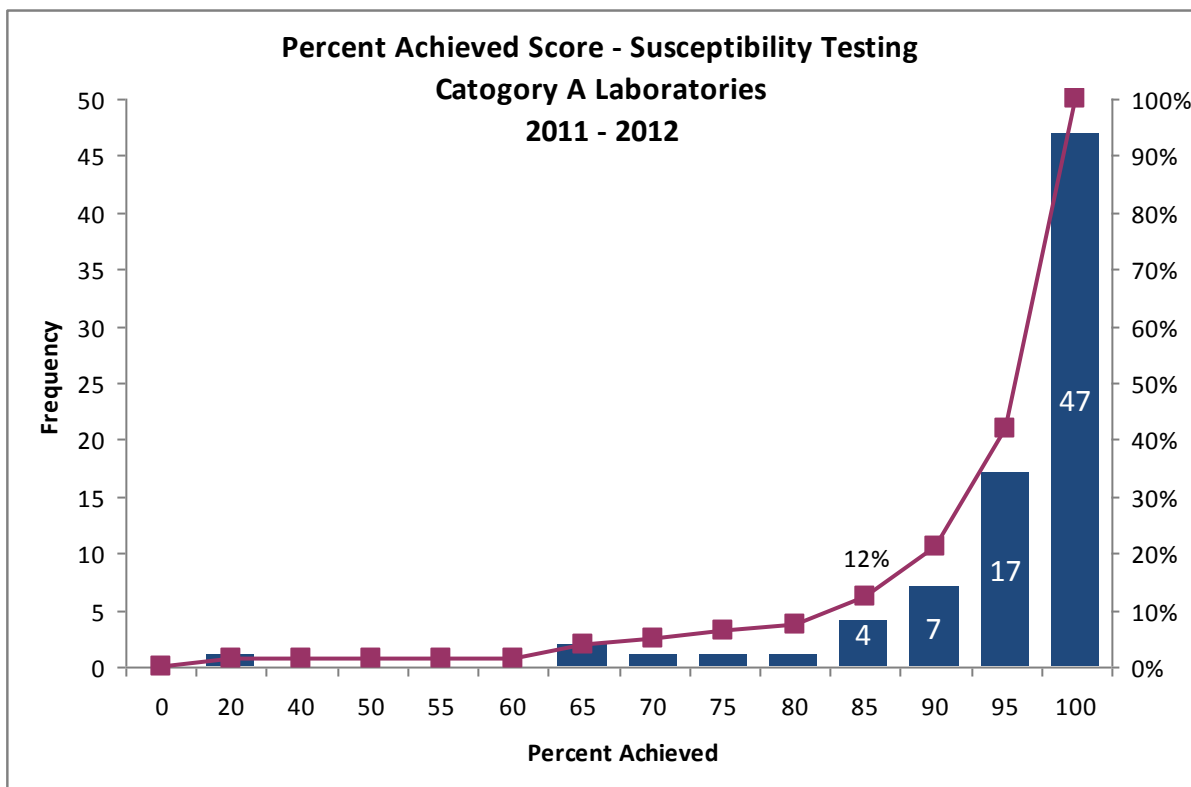
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=100)	Cumulative
20	2	2.00%
40	0	2.00%
50	0	2.00%
55	0	2.00%
60	0	2.00%
65	2	4.00%
70	1	5.00%
75	1	6.00%
80	1	7.00%
85	4	11.00%
90	12	23.00%
95	18	41.00%
100	59	100.00%



Out of 100 laboratories, 59 (99%) received a perfect score; 94% laboratories received scores of 80% or higher.

Antimicrobial Susceptibility Testing - Category A Laboratories

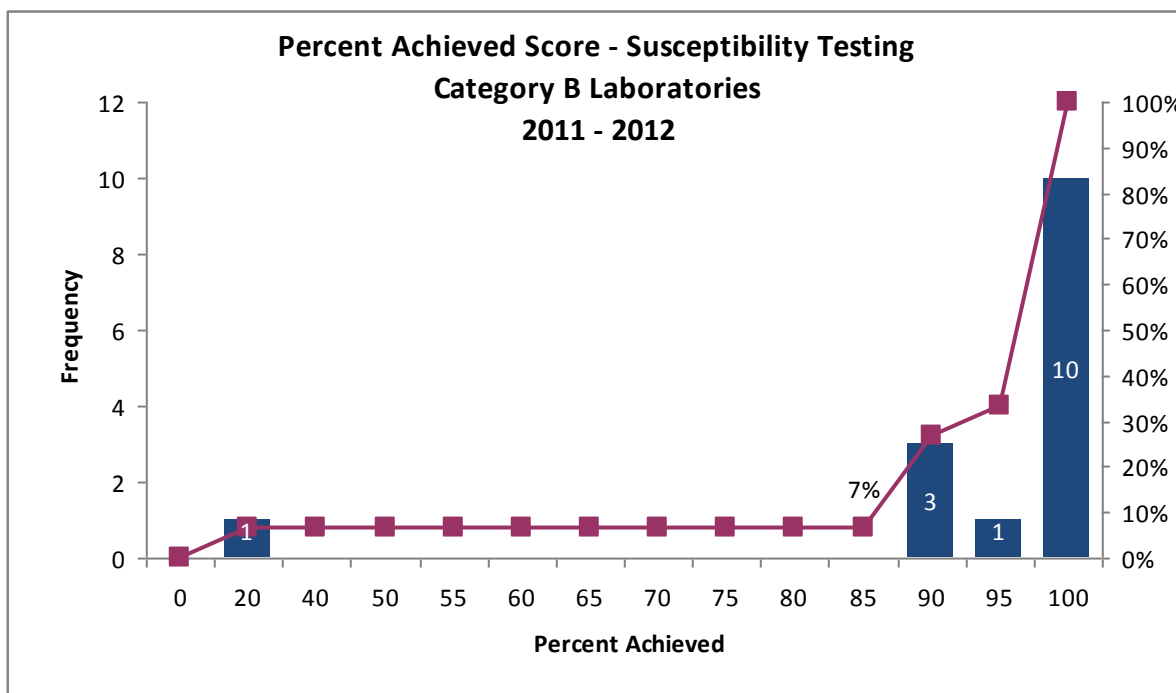
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=81)	Cumulative
20	1	1.23%
40	0	1.23%
50	0	1.23%
55	0	1.23%
60	0	1.23%
65	2	3.70%
70	1	4.94%
75	1	6.17%
80	1	7.41%
85	4	12.35%
90	7	20.99%
95	17	41.98%
100	47	100.00%



Out of 81 laboratories, 47 (58%) received a perfect score, 76 (94%) laboratories received scores of 80% or higher.

Antimicrobial Susceptibility Testing - Category B Laboratories

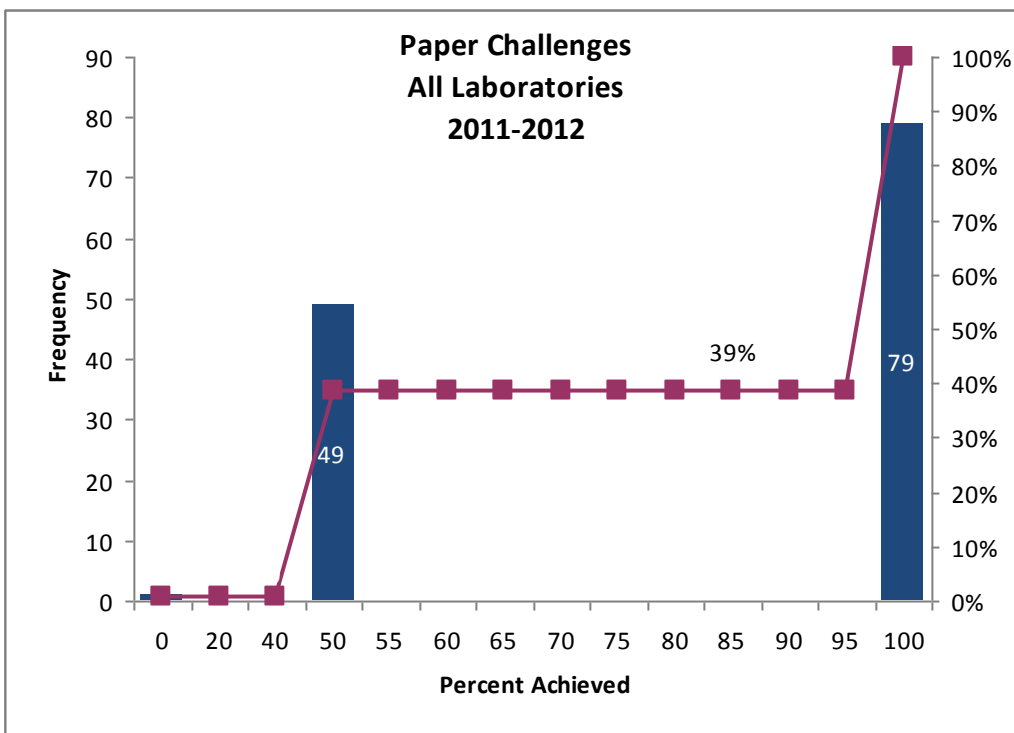
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=15)	Cumulative
20	1	6.67%
40	0	6.67%
50	0	6.67%
55	0	6.67%
60	0	6.67%
65	0	6.67%
70	0	6.67%
75	0	6.67%
80	0	6.67%
85	0	6.67%
90	3	26.67%
95	1	33.33%
100	10	100.00%



Out of 15 laboratories 10 (67%) received a perfect score; 93% of the laboratories received scores of 80% or more

Paper Challenges - All laboratories

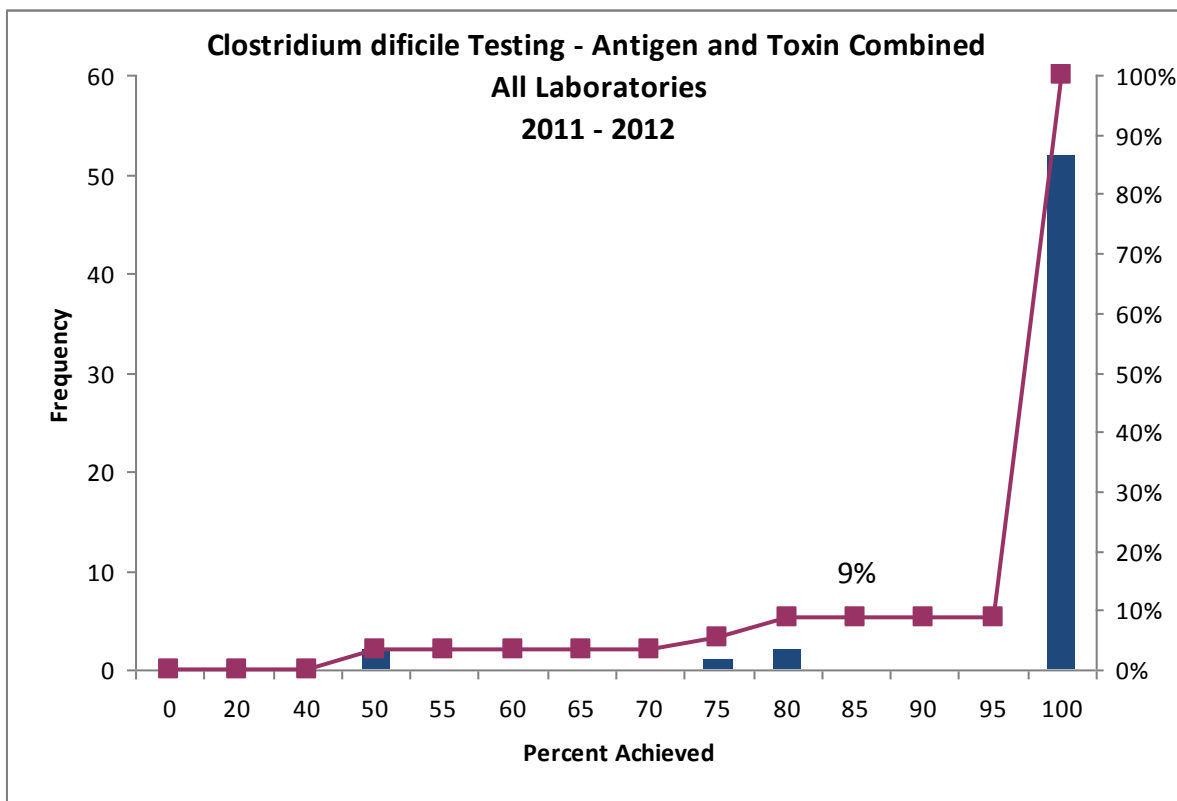
Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grades	Laboratories (n=129)	Cumulative
0	1	0.78%
20	0	0.78%
40	0	0.78%
50	49	38.76%
55	0	38.76%
60	0	38.76%
65	0	38.76%
70	0	38.76%
75	0	38.76%
80	0	38.76%
85	0	38.76%
90	0	38.76%
95	0	38.76%
100	79	100.00%



Out of 129 laboratories 79 (61%) received a perfect score.

Clostridium difficile Toxin Detection - All Laboratories

Score Table: 2011 – 2012 Percent of all laboratories with acceptable grades		
% acceptable grade	Laboratories (n=15)	Cumulative
50	2	3.51%
55	0	3.51%
60	0	3.51%
65	0	3.51%
70	0	3.51%
75	1	5.26%
80	2	8.77%
85	0	8.77%
90	0	8.77%
95	0	8.77%
100	52	100.00%



Out of 54 laboratories, 52 (96%) received scores of 80% or higher.

WATER MICROBIOLOGY PROGRAM

CMPT acknowledges with appreciation the valuable and essential advisory and technical support of:

Chris Enick BSc.....Exova, Surrey, BC

Joe Fung BSc MPH.....BCCDC Environmental Microbiology, Vancouver, BC

CMPT participates with the following organizations to provide external quality assessment challenges and assistance for water bacteriology.

- Enhanced Water Quality Assurance (British Columbia Water Bacteriology Approval Committee)
- BCCDC Environmental Microbiology Laboratory
- British Columbia Ministry of the Environment

Water Program Overview

In 2011, forty-seven laboratories participated in the water bacteriology program. Drinking Water challenge surveys are shipped to laboratories three times per year. Each survey consists of sets of 4 drinking water samples.

Recreational Water challenge surveys are shipped two times per year. Each survey consists of one set of recreational water samples (spa water, freshwater beach or marine water). Participants can choose to participate in one, two, or all the recreational water challenge samples.

Not all laboratories perform all challenges and not all laboratories use the same methods when testing water samples. Laboratories performing testing use one to four methods depending on the laboratory's accreditation criteria. Laboratories also perform a qualitative method, the Presence/Absence method, as their primary method or in addition to the quantitative methods.

The recreational water challenge records are shown in Table 1 and the drinking water bacteriology (membrane filtration, Enzyme Substrate, MPN and Presence/Absence methods) challenge records for 2011 are shown in Table 2.

Table 1: Simulated recreational water bacteriology challenge record for 2011				
Date	Source	Challenge	Membrane Filtration mean/median cfu/100mL	Enzyme Substrate mean/median MPN/100 ml
R111 April 11, 2011	Spa Water	<i>Pseudomonas aeruginosa</i>	64/55	N/A
	Freshwater Beach	<i>Escherichia coli</i>	503/520	536/492
	Marine Water	<i>Enterococcus</i> species	91/89	81/83
R112 August 8, 2011	Spa Water	<i>Pseudomonas aeruginosa</i>	78/88	N/A
	Freshwater Beach	<i>Escherichia coli</i>	242/235	314/273
	Marine Water	<i>Enterococcus</i> species	43/45	49/47

WATER MICROBIOLOGY PROGRAM

Table 2: Simulated drinking water bacteriology challenge record for 2011									
Date	Sample No.	Organism	Membrane Filtration mean/median cfu/100 ml		Enzyme Substrate mean/median MPN/100 ml		MPN mean/median MPN/100 ml		Presence/ Absence (P/A)
			Total Coli-forms	<i>E.coli</i>	Total Coli-forms	<i>E.coli</i>	Total Coli-forms	<i>E.coli</i>	Total Coli-forms/ <i>E.coli</i>
W111 April 11, 2011	1	<i>Enterobacter</i> species	21/19	0/0	20/20	0/0	17/16	0/0	P/A
	2	<i>Escherichia coli</i>	33/34	33/33	38/38	37/36	>23/>23	>23/>23	P/P
	3	<i>Escherichia coli</i>	34/33	33/33	34/36	32/36	>23/>23	>23/>23	P/P
	4	no organisms present	0/0	0/0	0/0	0/0	0/0	0/0	A/A
W112 July 4, 2011	1	<i>Escherichia coli</i>	20/19	20/20	19/19	18/18	14/16	14/16	P/P
	2	<i>Enterobacter</i> species	31/30	0/0	31/31	0/0	>23/>23	0/0	P/A
	3	<i>Escherichia coli</i>	67/68	66/67	74/74	71/70	>23/>23	>23/>23	P/P
	4	<i>Enterobacter</i> species	62/62	0/0	31/59	0/0	>23/>23	0/0	P/A
W113 October 31, 2011	1	<i>Enterobacter</i> species	34/32	0/0	33/34	0/0	>23/>23	0/0	P/A
	2	<i>Enterobacter</i> species	17/16	0/0	18/17	0/0	21/23	0/0	P/A
	3	no organisms present	0/0	0/0	0/0	0/0	0/0	0/0	A/A
	4	<i>Escherichia coli</i>	42/45	43/43	49/47	48/47	>23/>23	>23/>23	P/P

WATER MICROBIOLOGY PROGRAM

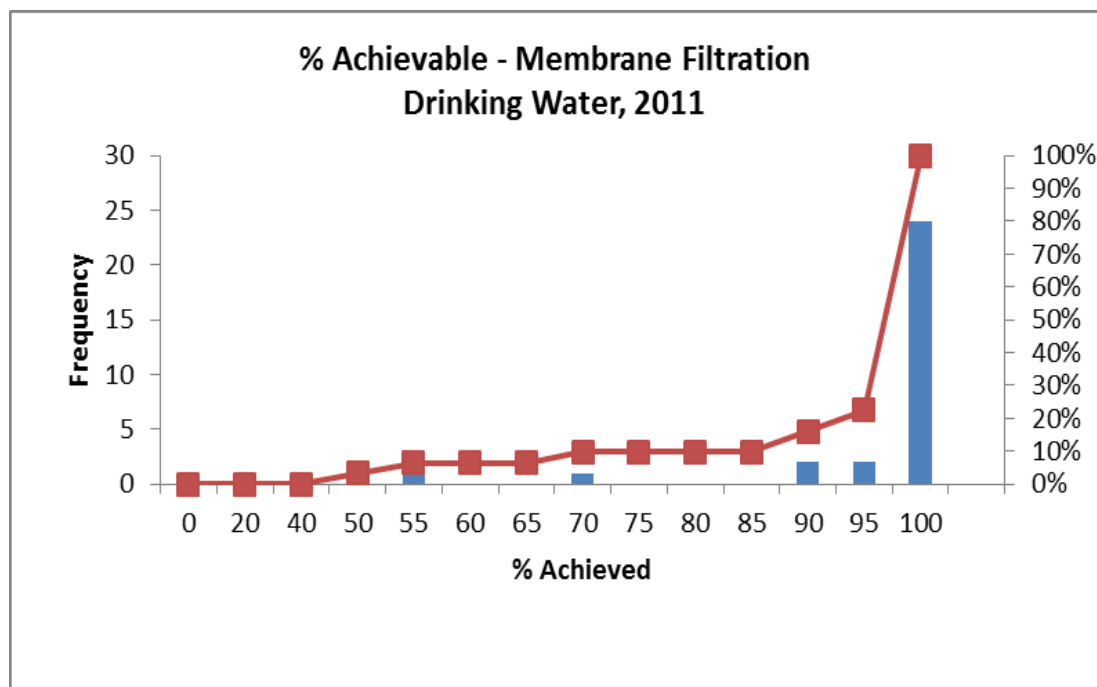
Water Bacteriology (Drinking and Recreational Water Sample) Score

Laboratory testing results are graded based on the Membrane Filtration, Enzyme Substrate, MPN and/or Presence/Absence methods.

All methods are graded on a point scale for assessment of water samples with the exception of the Presence/Absence method — a qualitative method — which is therefore, graded qualitatively. With 12 drinking water samples tested for the program year, the maximum score is 36. With 3 recreational water samples, laboratories can receive up to a maximum score of 9.

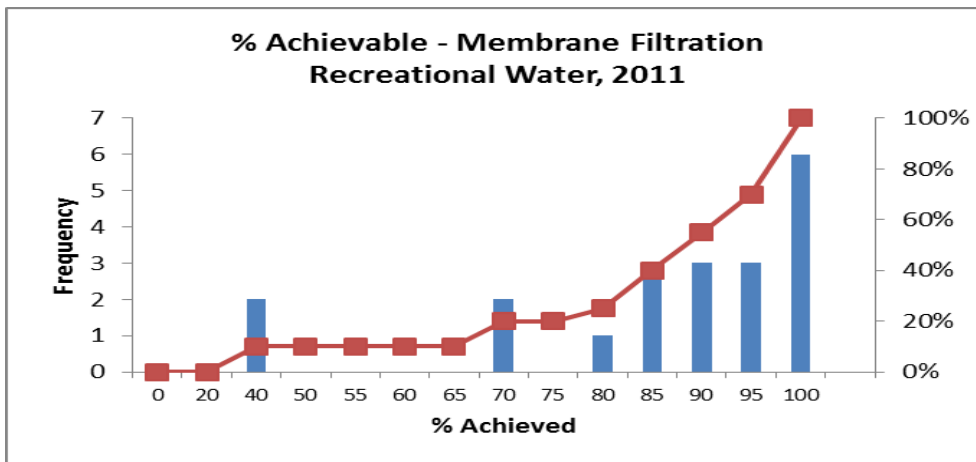
The following Score Tables illustrate the % Achievable scores for each method during 2011.

Membrane Filtration Method Score Table Drinking Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=31)	% Cumulative
50	1	3.2
54	1	6.4
67	1	10.0
88	1	12.9
89	1	16.1
92	1	19.4
94	1	22.6
97	1	25.8
100	23	100.0

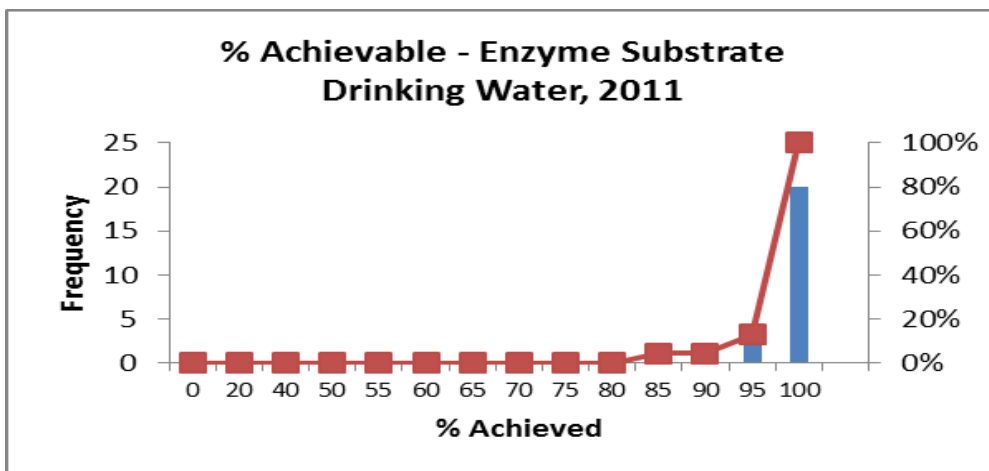


WATER MICROBIOLOGY PROGRAM

Membrane Filtration Method Score Table Recreational Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=20)	% Cumulative
33	2	10
67	2	20
80	1	25
83	3	40
87	1	45
89	2	55
92	1	60
94	2	70
100	6	100



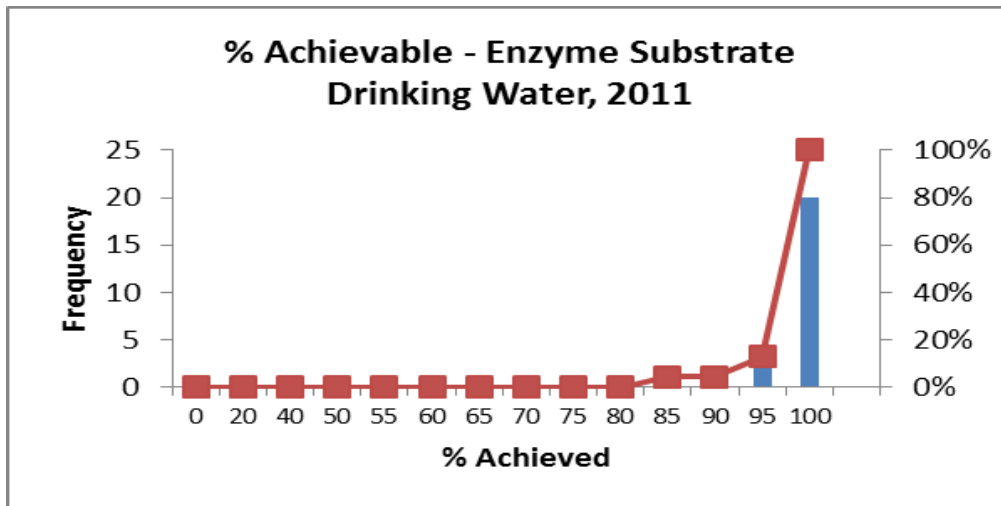
Enzyme Substrate/Most Probable Method (MPN) Score Table. Recreational Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=11)	% Cumulative
92	1	9
100	10	100



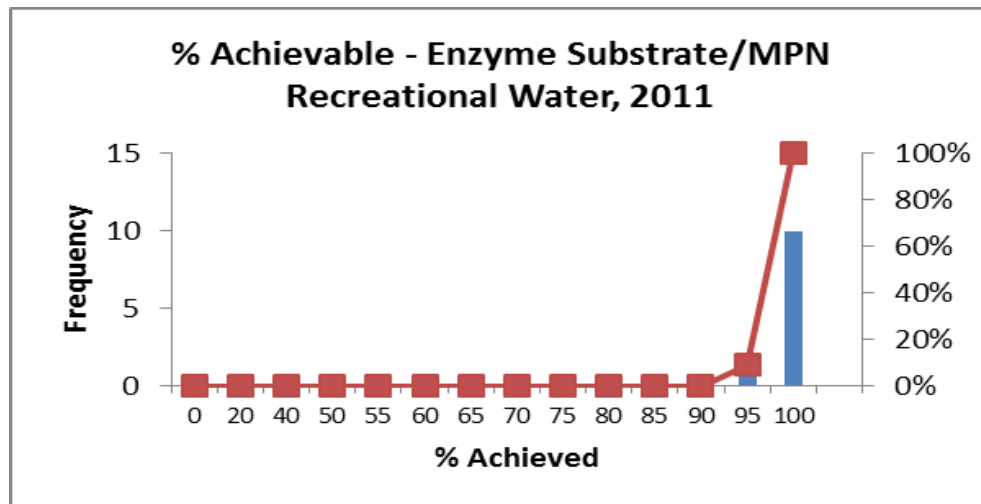
Water Microbiology Program

WATER MICROBIOLOGY PROGRAM

Enzyme Substrate Method Score Table. Drinking Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=23)	% Cumulative
83	1	4.3
92	1	8.7
94	1	13.0
97	2	21.7
100	18	100.0



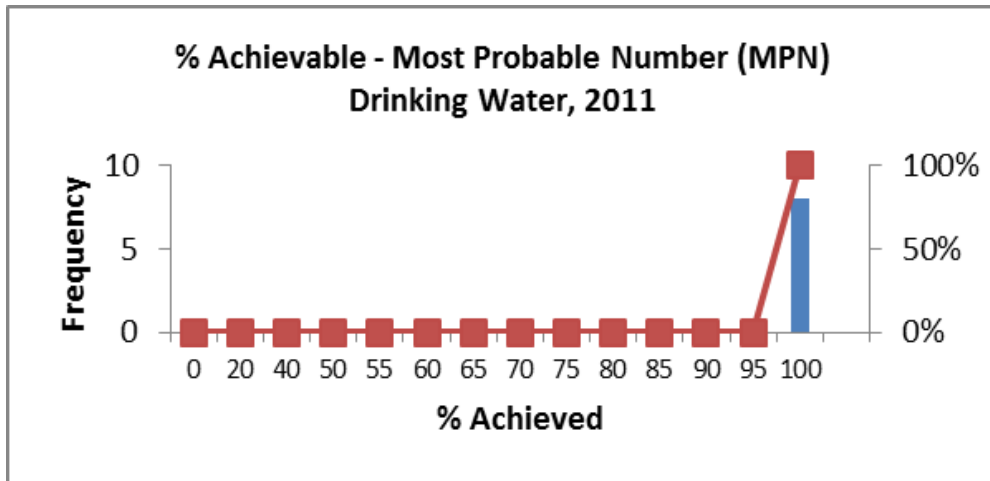
Enzyme Substrate/Most Probable Method (MPN) Score Table. Recreational Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=11)	% Cumulative
92	1	9
100	10	100



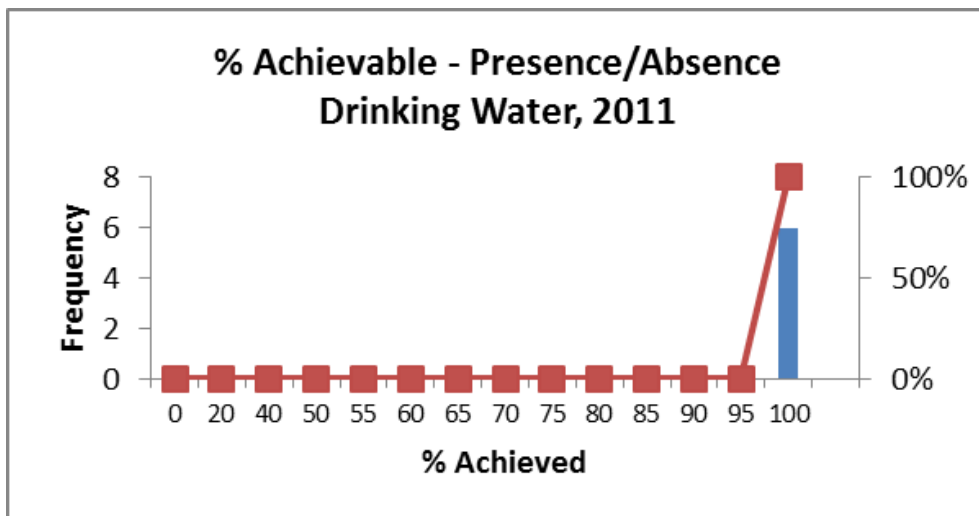
Water Microbiology Program

WATER MICROBIOLOGY PROGRAM

Most Probable Number (MPN) Method Score. Drinking Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=8)	% Cumulative
100	8	100



Presence/Absence Method Score Table. Water Testing Laboratories Performance for 2011		
% Achievable	Labs (n=6)	% Cumulative
100	6	100



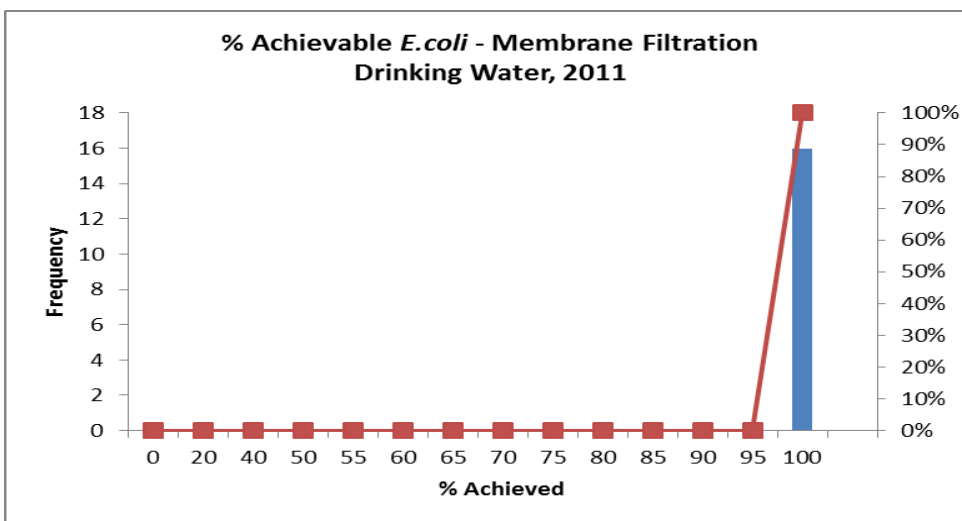
Water Microbiology Program

WATER MICROBIOLOGY PROGRAM

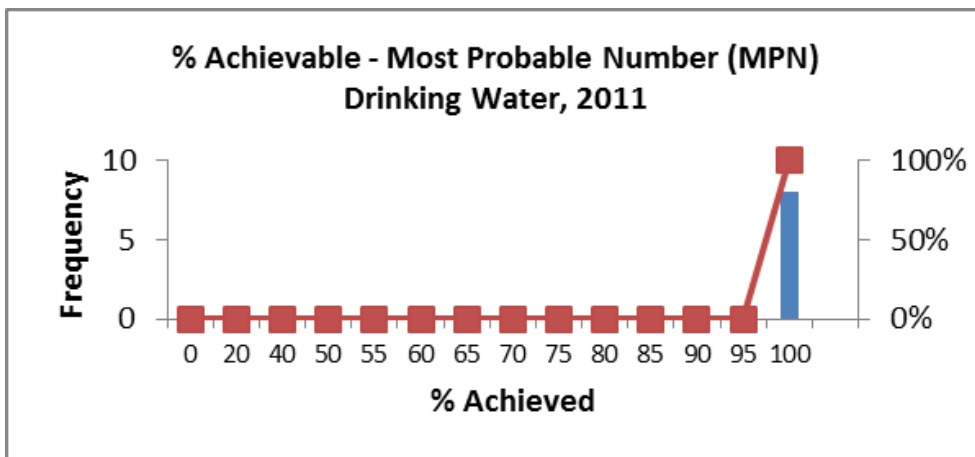
***E.coli* Supplemental Testing**

A total of 17 laboratories (all methods) perform supplemental water bacteriology testing to discern *Escherichia coli* from other thermotolerant coliforms. These laboratories are assessed as a separate group and were assessed an additional 36 points maximum for the program year per method if they reported *Escherichia coli* and thermotolerant coliforms. The Membrane Filtration and the MPN methods were the methods used.

Membrane Filtration Method Score Table: <i>E.coli</i> Testing, 2011		
% Achievable	Labs (n=16)	% Cumulative
100	16	100



Most Probable Number Method Score Table: <i>E. coli</i> Testing, 2011		
% Achievable	Labs (n=8)	% Cumulative
100	8	100



Water Microbiology Program

MYCOLOGY PROGRAM

CMPT acknowledges with appreciation the valuable and essential advisory and technical support of:

Robert Rennie MD FRCPC.....University of Alberta Hospital, Edmonton, AB

Jeff Fuller FCCM, (D)ABMM.....University of Alberta, Edmonton, AB

Romina Reyes MD FRCPC.....LifeLabs, Burnaby, BC

Brad Jansen BSc, MLT.....University of Alberta Hospital, Edmonton, AB

Basic Mycology Program

The Basic Mycology Program serves two constituent groups:

- British Columbia clinical dermatologists who perform mycology cultures in office laboratories.
- Microbiology laboratories that participate in this program to supplement other quality assurance programs to maintain proficiency in handling and identifying dermatology related fungi and yeasts.

For the past 22 years, CMPT has provided a **Basic Mycology Program** for proficiency testing suitable for those doing office mycology and as a supplement for laboratories requiring a small number of additional challenges.

The primary focus is the identification of dermatophytes and commonly recovered contaminants. The four fungal isolates for 2011-2012 are listed in Table 1.

Table 1: Basic Mycology Program Challenges 2011 - 2012

Date	Sample	KOH/Identification Challenge
September 2011	1109	KOH: negative
	1109-1	<i>Candida dublinensis</i>
	1109-2	<i>Trichophyton rubrum</i>
April 2012	1204	KOH: positive
	1204-1	<i>Trichosporon</i> species (<i>T.inkin</i>)
	1204-2	<i>Trichophyton verrucosum</i>

MYCOLOGY PROGRAM

Mycology Plus Program

The Mycology Plus Program was introduced to participants in June 2001 and includes 12 proficiency challenges for dermatophytes, common laboratory contaminants, yeast identification and KOH slides. It is an extension to the Basic Mycology Program and currently grades are not awarded. Susceptibility challenges for yeasts were introduced this year and laboratories that perform anti-fungal testing were encouraged to report their results.

Table 2. Mycology Plus Program Challenges 2011 - 2012

KOH	Yeast	Dermatophytes	Molds
September 2011 - 11 Participants			
1109 A: negative B: positive	1109-1: <i>Candida dublinensis</i> -oral sample (AIDS patient)	1109-2: <i>Trichophyton rubrum</i> - nail	1109-3: <i>Paecilomyces lilacus</i> - sinus aspirate
Results: A: All correct B: All correct	Results: 4 – <i>C. dublinensis</i> 1 – <i>Candida</i> species 5 – <i>C. albicans</i> 1 – snnp	Results: 5 – <i>T. rubrum</i> 3 – <i>Trichophyton</i> species 1 – <i>T. tonsurans</i> 1 – fungus, refer 1 – snnp	Results: 8 – <i>Paecilomyces</i> species 1 – <i>Fusarium</i> species 2 – snnp
January 2012 - 11 Participants			
1201 A: negative B: negative	1201-1: <i>Cryptococcus gattii</i> - bronchial alveolar lavage	1201-2: <i>Microsporium gypseum</i> -skin scraping	1201-3: <i>Absidia</i> species - bronchial alveolar lavage
Results: A: 10 correct, 1 incorrect B: 10 correct, 1 incorrect	Results: 7 – <i>C. neoformans</i> 2 – <i>C. neoformans</i> , refer 2 – snnp	Results: 10 – <i>M. gypseum</i> 1 – snnp	Results: 5 – <i>Absidia</i> species 1 – <i>Absidia corymbifera</i> 1 – <i>Mucor</i> species 1 – <i>Rhizomucor</i> species 2 – snnp
April 2012 - 11 Participants			
1204 A: positive B: negative	1204-1: <i>Trichosporon</i> species (<i>T. inkin</i>) - hair sample	1204-2: <i>Trichophyton verrucosum</i> -nail sample	1204-3: <i>Scopulariopsis</i> species or <i>Paecilomyces</i> species - nail bed sample
Results: A: All correct B: 7 correct, 4 incorrect	Results: 4 – <i>T. inkin</i> 3 – <i>Trichosporon</i> species 1 – <i>Trichosporon asahii</i> 1 – saphrophyte 1 – no growth 1 – snnp	Results: 4 – <i>Trichophyton</i> species (1 – resembled <i>T. mentagrophytes</i>) 2 – <i>T. mentagrophytes</i> 2 – <i>T. terrestre</i> 1 – <i>T. rubrum</i> 1 – <i>T. tonsurans</i> 1 – snnp	Results: 2 - <i>Scopulariopsis</i> species 2 - <i>Paecilomyces</i> species 2 – fungus isolated 1 – <i>Cladosporium</i> species 1 – dematiaceous mold, mixed? 1 – sample rejected 1 – snnp

snp: sample not normally processed

ENTERIC PARASITOLOGY PROGRAM

CMPT acknowledges with appreciation the essential advisory and technical support of:

Tara Bonham, RT.....BC Biomedical Laboratories, Surrey, BC

Sylvie Champagne MD FRCPC.....St. Paul's Hospital, Vancouver, BC

Joan Tomblin MD FRCPC.....BC Biomedical Laboratories, Surrey, BC

Quantine Wong BSc.....BCCDC Laboratory, Vancouver, BC

Program Overview

Samples are supplied by McGill University Centre of Tropical Diseases, Montreal, Quebec, BC Bio-Medical Labs and BCCDC. The program consists of 3 surveys. Each survey consists of 3 SAF preserved samples requiring a total of 9 challenge readings that include 3 concentrates and 3 stained smears.

Grading is assessed on the combined results of the stained smear and the concentrate and is based on a 2 point scale (acceptable or unacceptable). Table 1 lists the samples and grades received for the 2011 challenges.

Date	Sample	Parasite	Acceptable	Unacceptable	Ungraded
April 2011	1104-1	<i>Dientamoeba fragilis</i> , <i>Blastocystis hominis</i>	23	1	1
	1104-2	<i>Entamoeba hartmanni</i>	22	3	0
	1104-3	<i>Hymenolepis nana</i>	23	2	0
July 2011	1107-1	<i>Diphyllobothrium latum</i>	24	2	0
	1107-2	no ova and/or parasites present	25	1	0
	1107-3	<i>Giardia lamblia</i> , <i>Blastocystis hominis</i>	26	0	0
October 2011	1110-1	<i>Trichuris trichiura</i>	25	1	0
	1110-2	<i>Cryptosporidium species</i> , <i>Blastocystis hominis</i>	0	0	26
	1110-3	no ova and/or parasites present, white blood cells (WBCs)	25	1	0
Total			193	11	27

Bold: major pathogens

TRICHOMONAS VAGINALIS ANTIGEN PROGRAM

CMPT launched the *Trichomonas vaginalis* Antigen Program with the first shipment on August 8, 2011. The program consisted of 2 surveys in 2011, with the goal of 3 surveys in 2012. Each survey consists of 4 samples which are designed to be used with the Genzyme OSOM® *Trichomonas* Rapid Test Kit.

Grading is based on a 2 point scale (acceptable or unacceptable). Table 1 lists the samples and grades received for the 2011 challenges.

Table 1 <i>Trichomonas vaginalis</i> Antigen Challenges 2011					
Date	Sample	Results	Acceptable	Unacceptable	Ungraded
August 2011	1108-1	positive	26	0	0
	1108-2	negative	26	0	0
	1108-3	positive	26	0	0
	1108-4	negative	26	0	0
November 2011	1111-1	negative	26	0	0
	1111-2	negative	26	0	0
	1111-3	positive	26	0	0
	1111-4	positive	26	0	0
Total			208	0	0

2011 - 2012 CMPT PROGRAMS' PARTICIPANTS

Clinical Bacteriology - Distribution of Participant Laboratories

Province / Territory	Joined in	A	B	C	C1	Total
Alberta	1992	16		2	1	19
British Columbia	1982	25	3	1	20	49
Manitoba	2001	13	3		1	17
New Brunswick	1993	4	1			5
Newfoundland and Labrador	1997	1				1
Nova Scotia	1993	6	3			9
Northwest Territories	1992	1				1
Nunavut	1994		1			1
Ontario	2004	1				1
Prince Edward Island	1993	2				2
Saskatchewan	1996	13	3	6		22
Yukon	1992	1				1
Total		83	14	9	22	128

Clinical Bacteriology - Reference Laboratories

Alberta	Calgary Laboratory Services Division of Microbiology & Public Health DynaLIFE _{DX} Laboratories
British Columbia	Children's & Women's Health Centre of BC Royal Columbian Hospital Royal Inland Hospital Royal Jubilee Hospital St. Paul's Hospital Vancouver General Hospital
Manitoba	Health Sciences Centre St. Boniface General Hospital
New Brunswick	Moncton Hospital (SE Healthcare Corp.)
Nova Scotia	Queen Elizabeth II Hospital & Health Sciences Centre
Saskatchewan	Regina General Hospital Royal University Hospital

Clinical Bacteriology - Category A Laboratories

Alberta

Bonnyville Health Centre
 Calgary Laboratory Services
 Chinook Regional Hospital
 DynaLIFE_{DX} Laboratories
 High River General Hospital
 Medicine Hat Diagnostic Lab
 Medicine Hat Regional Hospital
 Mineral Springs Hospital
 Provincial Laboratory for Public Health—Calgary
 Provincial Laboratory for Public Health—Edmonton
 Queen Elizabeth II (Grande Prairie Regional) Hospital
 Red Deer Regional Hospital
 Southern Alberta Provincial Laboratory
 St. Mary's Hospital
 Wainwright Health Complex
 Westlock Health Care Centre

British Columbia

Abbotsford Regional Hospital
 BCCDC Provincial Laboratory
 Burnaby Hospital
 Campbell River Hospital
 Children's & Women's Health Centre of BC
 Dawson Creek & District Hospital
 East Kootenay Regional Hospital
 GR Baker Memorial Hospital
 Kelowna General Hospital
 Kootenay Boundary Regional Hospital
 LifeLabs, Burnaby
 LifeLabs, Victoria
 Nanaimo Regional General Hospital
 Penticton Regional Hospital
 Powell River General Hospital
 Royal Columbian Hospital
 Royal Inland Hospital
 Royal Jubilee Hospital
 St. Joseph's Hospital
 St. Paul's Hospital
 Surrey Memorial Hospital
 University Hospital of Northern BC
 Valley Medical Laboratory
 Vancouver General Hospital
 Vernon Jubilee Hospital

Yukon

Whitehorse General Hospital

Manitoba

Boundary Trails Health Centre
 Cadham Provincial Laboratory
 Churchill Regional Hospital
 Dauphin Regional Health Centre
 Flin Flon General Hospital
 Health Sciences Centre
 Portage District General Hospital
 Selkirk & District Hospital
 St. Boniface General Hospital
 Swan River Valley Hospital
 The Pas Health Complex
 Thompson General Hospital
 Westman Regional Laboratory

New Brunswick

Dr. Everett Chalmers Hospital
 Edmundston Regional Hospital
 Moncton Hospital
 Saint John Regional Hospital

Newfoundland and Labrador

Newfoundland Public Health Lab

Nova Scotia

Cape Breton Hospital
 Colchester Regional Hospital
 Cumberland Regional Healthcare Centre
 I.W.K. Health Center
 Queen Elizabeth II Hospital & Health Sciences Centre
 St. Martha's Regional Hospital

Northwest Territories

Stanton Regional Hospital

Ontario

Sioux Lookout Meno-Ya-Win Health Centre

Prince Edward Island

Queen Elizabeth Hospital (PEI)
 Prince County Hospital

Saskatchewan

Battlefords Union Hospital
 Cypress Regional Hospital
 Lloydminster Hospital
 Melfort Hospital
 Moose Jaw Union Hospital
 Nipawin Hospital
 Regina General Hospital
 Royal University Hospital
 Saskatchewan Disease Control Laboratory
 St. Joseph's Hospital
 Victoria Hospital
 Weyburn General Hospital
 Yorkton Regional Health Centre

Clinical Bacteriology - Category B Laboratories

British Columbia

LifeLabs, Kamloops
Mills Memorial Hospital
Prince Rupert Regional Hospital

Manitoba

Central Medical Labs
Trinor Laboratory
UniCity Laboratory Services

New Brunswick

Campbellton Regional Hospital

Nunavut

Qikiqtani General Hospital

Nova Scotia

Health Services Association South Shore
Valley Regional Hospital
Yarmouth Regional Hospital

Saskatchewan

Humboldt District Hospital
Kamsack Hospital
Meadow Lake Union Hospital

Clinical Bacteriology - Category C and C1 Laboratories

Alberta

Peace River Health Centre
St. Joseph's General Hospital
Vermilion Health Centre

Manitoba

Bethesda Hospital

Saskatchewan

All Nations' Healing Hospital
Kinderseley Union Hospital
Kipling Health Centre
La Ronge Hospital
St. Anthony's Hospital
St. Peter's Hospital

British Columbia

Abbotsford Regional Hospital
Aberdeen Laboratory
Bulkley Valley District Hospital
Chilliwack General Hospital
Delta Hospital
Fort Nelson General Hospital
Fort St. John Hospital
Fraser Canyon Hospital
Kitimat General Hospital
Lakes District Hospital
Langley Memorial Hospital
Mackenzie District Hospital
Mission Memorial Hospital
Peace Arch District Hospital
Queen Charlotte Islands General Hospital
Ridge Meadows Hospital
Royal Columbian Hospital
St. John Hospital
Stuart Lake Hospital
Surrey Memorial Hospital
Wrinch Memorial Hospital

Water Microbiology Laboratories

Alberta

ALS Environmental - Calgary
 DynaLIFE_{Dx} Medical Labs
 Maxxam Analytics Inc. - Calgary
 Maxxam Analytics Inc. - Edmonton
 Maxxam Analytics Inc. - Fort McMurray
 Provincial Laboratory for Public Health - Calgary
 Provincial Lab for Public Health - Edmonton

British Columbia

AGAT Laboratories
 Agrichem Analytical
 ALS Environmental - Fort St John
 ALS Environmental - Vancouver
 BCCDC Environmental Microbiology
 Capital Regional District Water Department Lab
 CARO Analytical Services
 City of Kamloops, Wastewater Treatment Plant
 Eco-Tech Laboratory Ltd.
 Exova
 IG MicroMed Inc.
 M.B. Labs Ltd.
 Maxxam Analytics Inc. - Burnaby
 Maxxam Analytics Inc. - Victoria
 Metro Vancouver
 North Island Laboratory
 Northern Labs
 Passmore Laboratory
 Prince George Water Assay

Manitoba

ALS Environmental - Winnipeg
 Maxxam Analytics Inc. - Winnipeg

New Brunswick

Dr. Everett Chalmers Hospital
 Réseau de Santé Vitalité/Edmundston Hospital
 N. B. Dept. of Environment, Public Health Lab

Newfoundland and Labrador

Central Newfoundland Hospital
 Curtis Memorial Hospital
 G.B. Cross Memorial Hospital
 Newfoundland Public Health Laboratory
 Western Memorial Hospital

Nova Scotia

Queen Elizabeth II Hospital and Health Sciences Center

Northwest Territories

Stanton Regional Hospital
 Taiga Environmental Laboratory

Ontario

Maxxam Analytics Inc. - Mississauga
 ALS Environmental - Waterloo

Prince Edward Island

Dept. of Environment, Province of PEI

Saskatchewan

Saskatchewan Disease Control Laboratory

Mycology Laboratories (Clinical laboratories only)

Alberta

Provincial Laboratory for Public Health

British Columbia

Children's & Women's Health Centre of BC
LifeLabs, Burnaby
Royal Columbian Hospital
Royal Jubilee Hospital
Vancouver General Hospital

New Brunswick

Moncton Hospital

Newfoundland and Labrador

Newfoundland Public Health Laboratory

Nova Scotia

Queen Elizabeth II Hospital and Health Sciences Centre

Prince Edward Island

Queen Elizabeth Hospital

Saskatchewan

Royal University Hospital

Enteric Parasitology Laboratories

Alberta

Provincial Laboratory for Public Health
Red Deer Regional Hospital

British Columbia

Abbotsford Regional Hospital
BC Bio-Medical Laboratories **
BCCDC, Provincial Laboratory **
East Kootenay Regional Hospital
Kelowna General Hospital
Kootenay Boundary Regional Hospital
LifeLabs, Burnaby
LifeLabs, Victoria
Royal Inland Hospital
St. Joseph's Hospital
University Hospital of Northern BC
Valley Medical Laboratory
Vancouver General Hospital

International - Sweden

Swedish Institute for Infectious Disease Control

(** Reference laboratories)

New Brunswick

Dr. Everett Chalmers Hospital
Moncton Hospital
Saint John Regional Hospital

Newfoundland and Labrador

Newfoundland Public Health Laboratory

Nova Scotia

IWK Health Centre
Queen Elizabeth II Hospital and Health Sciences Centre
Yarmouth Regional Lab

Prince Edward Island

Queen Elizabeth Hospital

Saskatchewan

Royal University Hospital
Saskatchewan Disease Control Laboratory