Proficiency Testing Programs

2020 Catalogue

Institute for Quality Management in Healthcare
Centre for Proficiency Testing

Confidence. Elevated.
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IQMH WEBSITE
Access and download a PDF of the 2020 Proficiency Testing Catalogue from the IQMH website: https://iqmh.org/Services/Centre-For-Proficiency-Testing/PT-Catalogue

View the online catalogue which is incorporated within the Request a Quote tool: https://iqmh.org/Apps/PTQuoteRequest

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DISCOVER THE DIFFERENCE — IQMH PROFICIENCY TESTING PROGRAMS

PROVEN QUALITY IN SERVICE DELIVERY

- Accredited by The American Association for Laboratory Accreditation (A2LA) against international standard ISO/IEC 17043 Conformity assessment — General requirements for proficiency testing. Get the detailed General Program Information document here: https://iqmh.org/Portals/0/Docs/Services/PT/Record%20General%20Program%20Information%20for%20IQMH%20PT.pdf

VALUE-ADDED FEATURES

- Exclusive access to subject matter experts
  - 55 Scientific Committee members
  - 10 discipline-specific Scientific Committees
  - Committee members consist of laboratory physicians, scientists and medical laboratory technologists. They collaborate with the Proficiency Testing (PT) consultant technologists, providing technical and clinical advice regarding program design of the PT survey model, selection of testing material, criteria for performance assessment, provision of educational comments and feedback to participants. IQMH selects experts to support the credibility, impartiality and excellence of its programs.

- Use of internationally-accepted reliable statistical techniques
  Statistical analysis recommended in ISO/IEC 13528 Statistical methods for use in proficiency testing by interlaboratory comparison is used in the survey assessment and homogeneity and stability testing process.

- Paperless
  Program participants are provided with access to the secure IQMH extranet, QView™ Web, which allows:
  - Online submission of results;
  - 24/7 access to all program-related documents;
  - Access to a facility’s PT performance data using an electronic query, giving laboratory leaders the ability to download the data in Excel, review and use for analysis and continual improvement; and
  - Monitoring of:
    - Testing Schedules https://iqmh.org/Services/Centre-For-Proficiency-Testing/Proficiency-Testing-Schedule

- Detailed survey reports
  - General reports summarize performance of all participants in comparison to the assigned value;
  - Provisional reports summarize the expected results as determined from the assigned value;
  - Final reports provide your results in comparison to all submitted results;
  - Cumulative reports demonstrate your results over time;
  - Performance summary reports provide a summary of performance for all IQMH PT programs participated in by a laboratory within that year. This report can be used for management review; and
Precision reports provide laboratories an opportunity to evaluate their intra-laboratory precision. These reports are generated once a year in some quantitative surveys.

- **Exclusive access to educational components**
  - **Committee comments** are unique publications that provide participants with educational commentary of a specific survey. Comments are based on the collective experience and expertise of the IQMH Scientific Committees.
  - **Consensus practice recommendations** are based on a review of current practice for a given medical laboratory test or process and recommends best practice. The document is frequently based on findings from PT patterns-of-practice surveys, which may initially be published as a committee comment, and recommendations are confirmed by evidence documented in the scientific literature. Once completed, it is circulated to stakeholders for feedback and acceptance. It is reviewed periodically for continued relevance.
  - **Reviews** are educational/guidance documents intended to provide an overview of a scientific or technical topic, including background, clinical, analytical or technical information, the relevance and importance of the subject matter, and potential future directions. The content is derived through comprehensive review of available published scientific literature and input and experience provided from experts in the field. It does not contain committee recommendations and is not a consensus document.

- **Focus on pre- and post-analytical phases of laboratory testing, and the analytical phase**
  - Wet challenge surveys consist of authentic and simulated human samples distributed to participants for testing in the same manner as routine specimens.
  - Web-based surveys utilize digital images and/or case studies to establish and improve the current level of understanding about a topic of interest.
  - Patterns-of-practice surveys assess laboratory practices through review of questionnaires and/or participant documents and records associated with work-up of real patient samples for criterion-referenced assessment.

- **Guided discordant findings investigation**
  Laboratories achieving an unsatisfactory result in a survey or unacceptable performance in a series of surveys are provided with an opportunity to complete and submit a discordant findings investigation form that provides guidance in cause analysis and creates a record of corrective and preventive actions to meet their accreditation or regulatory requirements. Submission of discordant findings investigation forms is mandatory for Ontario licensed laboratories. Volunteer participants may choose to participate in this process.

### CONTINUAL IMPROVEMENT

- We expand our services each year to cover more testing to better serve the medical laboratory community.
NEW IN 2020

CHEMISTRY

CHANGES TO CHEMISTRY SURVEY MATERIALS

Serum Chemistry (CHEM) Survey — New!

The new Chemistry survey consists of analytes that were previously in the Routine Chemistry (CHEM), Drug Monitoring (DRUG), Enzymes and Bilirubin (ENZY), and Lipids (LIPS) surveys, except ethanol and tobramycin which have been removed from the program.

New analytes: cholinesterase, CK-MB, fructosamine.

Urine Chemistry (CHEM-UR) Survey — New!

The new Urine Chemistry survey consists of analytes that were previously in the CHEM-UR survey, except amylase which has been removed from the program.

Pilot analytes: cortisol, free deoxypyridinoline (DPD), free metanephrine, free normetanephrine, free 3-methoxytyramine, N-telopeptides. (Pilot analytes are introduced in surveys for trial purposes before implementation is decided. Voluntary and mandatory participants may choose to report results for pilot analytes free of charge.)

CHANGES TO CHEMISTRY SURVEYS

- Survey material analyte concentrations cover all clinically-relevant levels. The survey material has changed from spiked liquid human-based to lyophilized human-based. This important change makes it possible to cover all clinically-relevant concentration ranges.

- Improved survey sample stability leads to participant cost-savings. The new survey material has a stability range of two years, enabling shipment of the testing material once at the beginning of each year. Participants benefit from shipment cost-savings.

- Larger peer group sizes improve robustness of statistical analysis. Collaboration with The Royal College of Pathologists of Australasia Quality Assurance Programs (RCPAQAP) in distributing the same testing materials and sharing unidentified result data improves the robustness of the statistical analysis by increasing peer group sizes.

- Customize surveys according to your laboratory’s test menus (serum chemistry only). Participants now have the flexibility of choosing from a large variety of analytes according to their laboratory’s needs with several price categories.

- Customized analysis worksheets (serum chemistry only). Electronic analysis worksheets will only contain the analytes chosen by the laboratory for testing to simplify the process of completing and submitting the worksheet.

- Improved tool for method code maintenance. The structure of the method code maintenance screens will provide greater ease of use for participants.

- Redesigned survey reports to provide even more relevant results. The survey report format will change to display results of both the current survey and cumulative results from the previous surveys in the same report. This provides participants with a view of all aspects of their PT performance within the same report.

  Graphics in the survey reports will be changed from dot plots to histograms. Laboratories will be provided with SDIs in comparison to all-methods’ mean, principle mean, reagent mean, and where applicable instrument mean, along with the respective standard deviations. Where no Percent Allowable Difference (PAD) score is assigned, due to a peer group with less than five participants, laboratories may compare their results with a broader group as an internal alternative assessment.

Chemistry Urine Human Chorionic Gonadotropin (hCG) Qualitative (CHEM-UCG) Survey — New!

A new urine survey for hCG testing is now available for qualitative methods.
DRUG MONITORING

Drug Monitoring (DRUG) Survey — New!
A supplemental survey for drugs targeted for ethanol and tobramycin testing. Samples consist of pooled human serum spiked with specific analytes.

ENDOCRINOLOGY

Endocrinology Parathyroid Hormone (ENDO-PTH) Survey — New!
A standalone PTH material is now available with improved stability. One boxed set consisting of 3 sets of 3 vials containing lyophilized human serum, reconstituted volume of 1.0 mL, is shipped once at the beginning of each year.

Important note: PTH will no longer be available in the Endocrinology and Tumour Markers material (ENDO-A).

Shipment of the testing material occurs once at the beginning of each year for the following surveys: ENDO-A, ENDO-B, ENDO-PSA and ENDO-PTH.

IMMUNOLOGY

Immunology Web-based (IMGY-WB) Survey — New!
This web-based survey will involve a clinical case study that may include accompanying images. The survey is ideal for training and competency assessment.

VIROLOGY

Infectious Mononucleosis (VIRO-IM) Survey — New!
A new survey for the detection of heterophile antibodies for infectious mononucleosis has been added to the program. A set of defibrinated native human plasma will be used as the testing material. This survey is suitable for rapid testing kits and devices. Survey assessment will be qualitative and assigned values will be determined by participants’ consensus and verified in comparison with the supplier’s certificate of analysis.

IMPORTANT: ONTARIO LICENSED LABORATORIES

Participation in the IQMH Centre for Proficiency Testing programs is mandated by the Ontario Ministry of Health (MOH). Ontario licensed laboratories will be automatically enrolled in the appropriate surveys according to their laboratory license.
A SNAPSHOT OF THE PROFICIENCY TESTING PROGRAMS

The IQMH Centre for Proficiency Testing programs are accredited by The American Association for Laboratory Accreditation (A2LA) in accordance with the recognized International Standard ISO/IEC 17043:2010 Conformity assessment — General requirements for proficiency testing (Certificate Number: 3059.01). View the Certificate and Scope of Accreditation.

IQMH offers Proficiency Testing programs for the following classes of tests:

**Chemistry**
- Chemistry General
  - Blood Gases
  - Chemistry Urine
- Chemistry Urine Human Chorionic Gonadotropin (hCG) Qualitative
- Fecal Occult Blood
- Fecal Occult Blood — Fecal Immunochemical Test
- Hemoglobin A1c
- Chemistry (includes routine chemistry, enzymes, bilirubin, drug monitoring and lipids)
- Oximetry

**Hematology**
- Bone Marrow
  - Slide and Web-based
  - Web-based Only
- Coagulation
  - Coagulation Web-based
  - D-dimer Assay
  - Factor Assay
  - Routine Coagulation
  - Thrombophilia Investigation

**Flow Cytometry**
- CD34+ Stem Cell Enumeration
- Lymphocyte Immunophenotyping HIV
- Leukocyte Immunophenotyping for Hematologic Disorders

**Routine Hematology**
- Automated Body Fluid Cell Count
- CBC and Automated Leukocyte Differential
- Fetal-Maternal Hemorrhage
- Manual Body Fluid Cell Count
- Reticulocyte Count

**Morphology**
- Peripheral Blood Film Digital and/or Slide-based
- Peripheral Blood Film (Web-based only)

**Red Cell Disorders**
- Hemoglobin Fraction Quantitation
- Hemoglobinopathy Web-based
- Sickle Cell Solubility Screen

**Immunology**
- Cytogenetics
  - Routine Cytogenetics

**Cytopathology**
- Gynecological
- Non-Gynecological
Microbiology

Bacteriology
- Smears for Acid-Fast Stain
- C. difficile Antigen and/or Toxin Detection
- Routine Bacteriology

Molecular Microbiology
- C. trachomatis/N. gonorrhoeae

Mycology

Parasitology

Virology
- Anti-HIV
- Hepatitis
- Infectious Mononucleosis
- Respiratory Pathogens
- Rubella Serology

Pathology

Estrogen Receptor

Her2/neu Immunohistochemistry

Her2/neu in situ hybridization

Immunohistochemistry

Progesterone Receptor

Routine Oversight Stain (H&E or HPS) and/or Special Stain

Point-of-Care Testing

Chemistry
- Blood Gases
- Fecal Occult Blood
- Glucose
- Hemoglobin A1c
- Oximetry
- Urine Drug Screen

Virology
- Anti-HIV

Transfusion Medicine

Manual A (Advanced)

Manual B (Basic)

Manual B (Basic) – Direct Antiglobulin Test Only

Automation
ALREADY A CUSTOMER? RENEWAL IS EASY.

An email will be sent to the individual who ordered your proficiency testing material in the previous year. Contact info@iqmh.org immediately if you do not receive this email by the last week of August.

What should you do next?

- In the renewal email:
  - Click on the renewal link. You will be prompted to the quote tool which will auto-generate a quote request based on the surveys you ordered last year.
  - Add additional surveys and review. Add or delete surveys by clicking on the “Modify Selection” button. Review your order before submitting.
  - Submit. Click “Send Request”. A quote will be emailed to you within 48 hours for you to review and accept.
  - Accept your quote. Review the quote and click on the “Accept Order” button to finalize your order. If you have questions or need to make additional changes to your order, please contact info@iqmh.org.

NEW CUSTOMER? REQUEST A QUOTE.

To enrol in the IQMH Proficiency Testing program, visit the IQMH website and use the “Request a Quote” application https://iqmh.org/apps/ptquoterequest or email IQMH (info@iqmh.org) for a quote. A representative from IQMH will contact you with a quote. You can pay for enrolment by credit card or purchase order. Payment must be received before surveys are shipped. See Appendix A: Participating in the IQMH Proficiency Testing Program.

SURVEY PARTICIPATION

To ensure product availability, orders for 2020 proficiency testing programs should be placed no later than December 2, 2019, by using the online “request a quote” application https://iqmh.org/apps/ptquoterequest or send an email to info@iqmh.org. After this date, due to the number of samples available, surveys are offered on a first-come, first-served basis.

SHIPPING

Shipping charges are based on location and will be calculated during checkout when surveys are purchased. Unfortunately, due to shipping restrictions on hazardous materials or sample stability issues, some surveys cannot be shipped to all locations. We will notify you if this is the case.

Human Pathogens and Toxins

Canadian clients must ensure that they are licensed under the Human Pathogens and Toxins Act (HPTA) and provide evidence of such.

Samples distributed as part of the Microbiology Program may contain pathogens of Risk Group 2 or lower (Transportation of Dangerous Goods [TDG] Classification: UN3373 Biological Substance, Category B). Participants must ensure that their facilities and expertise are adequate to ensure the safe handling of these organisms during their participation in the program.

Participants must be licensed or approved by applicable local regulations to possess, handle, store, and dispose of specimens that may contain potentially infectious human pathogens.

International clients must ensure that activities are conducted in accordance with any applicable biosafety and biosecurity standards and policies in the foreign jurisdiction and provide evidence of such compliance.
Chemistry Program

CHEMISTRY GENERAL

BLOOD GASES

Program Details

Features
- This survey is suitable for laboratory instruments and point-of-care testing devices.
- Samples contain relevant parameters set to clinically significant ranges of acid-base and electrolyte balance, respiratory function and metabolites concentration.

Testing Material

Aqueous commercial preparation

No. of samples / survey: 2
Sample volume: 2.5 mL

Annual Frequency

2 surveys
Ships: March, August

Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>Chloride</th>
<th>Lactate</th>
<th>Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>pCO2</td>
<td>Sodium</td>
</tr>
<tr>
<td>Glucose</td>
<td>pH</td>
<td>Urea</td>
</tr>
<tr>
<td>Ionized Calcium</td>
<td>pO2</td>
<td></td>
</tr>
</tbody>
</table>
### Fecal Occult Blood

**Program Details**

**Features**
- Suitable for all methodologies. Participants can expect to submit qualitative results, such as: positive and negative.

**Testing Material**
- Simulated fecal product
- No. of samples / survey: 3
- Sample volume: 2.0 mL

**Annual Frequency**
- 3 surveys
- Ships: February, May, September

**Analytes/Parameters Monitored**
- Fecal occult blood

---

### Fecal Occult Blood — Fecal Immunochemical Test (FIT)

**Program Details**

**Features**
- Suitable for all quantitative methodologies.

**Testing Material**
- Lyophilized human protein-based material
- No. of samples / survey: 2
- Sample volume: Reconstitute with 1.0 mL of deionized water or instrument buffer as per package insert directions.

**Annual Frequency**
- 12 surveys
- Ships: Once per year
- Testing: Monthly

**Analytes/Parameters Monitored**
- Fecal occult blood
## HbA1c

### Program Details

**Features**
- Suitable for laboratory instruments and point-of-care testing devices.
- Results are assessed against the National Glycohemoglobin Standardization Program (NGSP) reference method.

### Testing Material

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single donor whole blood</td>
<td></td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td></td>
</tr>
<tr>
<td>Sample volume: 0.5 mL</td>
<td></td>
</tr>
</tbody>
</table>

### Analytes/Parameters Monitored

- HbA1c
# Chemistry

## Code: CHEM

### Program Details

#### Features

- Suitable for laboratory instruments.
- Customize survey according to laboratory’s test menu.
- Choose from six packages.
- Once purchased and enrolled, you will receive instructions to choose the analytes in which you wish to report.

#### Testing Material

- Lyophilized human serum reconstituted with 5 mL diluent (provided)
- No. of samples / survey: 3
- Sample volume: 5.0 mL

#### Annual Frequency

- 3 surveys
- Ships: Once per year
- Testing: March, May, September

### Analytes/Parameters Monitored

#### Chemistry

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Analyte</th>
<th>Analyte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>hs Troponin T</td>
<td>Sodium</td>
</tr>
<tr>
<td>Calcium, Total</td>
<td>Iron, Total</td>
<td>Total CO₂</td>
</tr>
<tr>
<td>Chloride</td>
<td>Lactate</td>
<td>Transferrin</td>
</tr>
<tr>
<td>Creatinine</td>
<td>Magnesium</td>
<td>Troponin I</td>
</tr>
<tr>
<td>Cholinesterase — NEW</td>
<td>Osmolality</td>
<td>UIBC</td>
</tr>
<tr>
<td>Fructosamine — NEW</td>
<td>Phosphate</td>
<td>Urea</td>
</tr>
<tr>
<td>Glucose</td>
<td>Potassium</td>
<td>Uric Acid</td>
</tr>
<tr>
<td>hs Troponin I</td>
<td>Protein, Total</td>
<td></td>
</tr>
</tbody>
</table>

#### Drug Monitoring

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Analyte</th>
<th>Analyte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Lithium</td>
<td>Theophylline</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>Phenobarbital</td>
<td>Valproic Acid</td>
</tr>
<tr>
<td>Digoxin</td>
<td>Phenytoin</td>
<td>Vancomycin</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>Salicylate</td>
<td></td>
</tr>
</tbody>
</table>

#### Enzymes

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Analyte</th>
<th>Analyte</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALP (Alkaline Phosphatase)</td>
<td>Bilirubin, Direct</td>
<td>CK-MB — NEW</td>
</tr>
<tr>
<td>ALT (Alanine Aminotransferase)</td>
<td>Bilirubin, Total — Ortho</td>
<td>GGT (Gamma-glutamyl Transferase)</td>
</tr>
<tr>
<td>Amylase</td>
<td>Bilirubin, Unconjugated – Ortho</td>
<td>LD (Lactate Dehydrogenase)</td>
</tr>
<tr>
<td>AST (Aspartate Aminotransferase)</td>
<td>Bilirubin, Conjugated – Ortho</td>
<td>Lipase</td>
</tr>
<tr>
<td>Bilirubin, Total</td>
<td>CK (Creatine Kinase)</td>
<td></td>
</tr>
</tbody>
</table>

#### Lipids

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Analyte</th>
<th>Analyte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>LDL-cholesterol Calculated</td>
<td>Triglycerides</td>
</tr>
<tr>
<td>HDL (HDL-cholesterol)</td>
<td>LDL-cholesterol Measured</td>
<td></td>
</tr>
</tbody>
</table>

#### Calculations — Optional Tests (will not count towards your package total)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Analyte</th>
<th>Analyte</th>
</tr>
</thead>
<tbody>
<tr>
<td>eGFR CKD-epi, Calculation</td>
<td>Transferrin Saturation, Calculation</td>
<td></td>
</tr>
<tr>
<td>eGFR MDRD, Calculation</td>
<td>Non-HDL (non-HDL-cholesterol), Calculation</td>
<td></td>
</tr>
<tr>
<td>TIBC, Calculation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Chemistry Urine

**Code: CHEM-UR**

**Program Details**

#### Features
- Suitable for laboratory instruments.

#### Testing Material
- Lyophilized human urine reconstituted with 10 mL deionized water
- No. of samples / survey: 2
- Sample volume: 10 mL

#### Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>Analyte/Parameter</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
</tr>
<tr>
<td>Cortisol — PILOT</td>
<td></td>
</tr>
<tr>
<td>Albumin:Creatinine Ratio, Calculation Interpretation of ratio, Qualitative Result</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
</tr>
<tr>
<td>Free Deoxypyridinoline (DPD) — PILOT</td>
<td></td>
</tr>
<tr>
<td>Free Metanephrine — PILOT</td>
<td></td>
</tr>
<tr>
<td>Free Normetanephrine — PILOT</td>
<td></td>
</tr>
<tr>
<td>Free 3-methoxytyramine — PILOT</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
</tr>
<tr>
<td>Osmolality</td>
<td></td>
</tr>
<tr>
<td>N-Telopeptides — PILOT</td>
<td></td>
</tr>
<tr>
<td>Phosphate</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td></td>
</tr>
<tr>
<td>Uric Acid</td>
<td></td>
</tr>
</tbody>
</table>

(Pilot analytes are introduced in surveys for trial purposes before implementation is decided. Voluntary and mandatory participants may choose to report results for pilot analytes free of charge.)

### Chemistry Urine Human Chorionic Gonadotropin (hCG) Qualitative

**Code: CHEM-UCG**

**Program Details**

#### Features
- Suitable for laboratory instruments and point-of-care devices.

#### Testing Material
- Human urine
- No. of samples / survey: 2
- Sample volume: 1 mL

#### Analytes/Parameters Monitored

- hCG (Human Chorionic Gonadotropin) qualitative

#### Annual Frequency
- 3 surveys
- Ships: February, May, September
Oximetry  

**Program Details**

**Features**
- Suitable for laboratory instruments and point-of-care testing devices.
- A dual chambered device keeps the two fractions separated, preventing reactions between components. When ready, the user simply pushes a button to allow the fractions to combine. The sample is mixed and is stable for 15 minutes. A syringe is required for sample application.
- **IMPORTANT:** Not suitable for use with Radiometer ABL90 instruments.

**Testing Material**
- Hemolysate of purified bovine hemoglobin
- No. of samples / survey: 3
- Sample volume: 2 mL

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
<th>Code: CHEM-OX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>Oxyhemoglobin</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>Total Hemoglobin</td>
</tr>
</tbody>
</table>

**Annual Frequency**
- 2 surveys
- Ships: March, August
## DRUG MONITORING

### Drug Monitoring

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooled human serum supplemented with selected drugs</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 3</td>
<td>Ships: March, August</td>
</tr>
<tr>
<td>Sample volume: 2.0 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

<table>
<thead>
<tr>
<th>Ethanol</th>
<th>Tobramycin</th>
</tr>
</thead>
</table>

### Urine Drug Screen

**Program Details**

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for laboratory instruments and point-of-care testing devices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human urine supplemented with selected drugs</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 3</td>
<td>Ships: March, August</td>
</tr>
<tr>
<td>Sample volume: 1.5 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

<table>
<thead>
<tr>
<th>Amphetamines/ Methamphetamine Group</th>
<th>Ethanol</th>
<th>Fentanyl</th>
<th>Methadone</th>
<th>Methadone Metabolite (EDDP)</th>
<th>Methamphetamine</th>
<th>Opiates</th>
<th>Oxycodone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbiturates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabinoid Metabolites (THC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine Metabolites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecstasy (MDMA/MDA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phencyclidine (PCP)</th>
<th>Propoxyphene</th>
<th>Tricyclic Antidepressants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEW</strong></td>
<td><strong>NEW</strong></td>
<td><strong>NEW</strong></td>
</tr>
</tbody>
</table>
## ENDOCRINOLOGY

### Endocrinology — Prostate Specific Antigen (PSA)

**Code:** ENDO-PSA

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyophilized human serum</td>
<td>3 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 4</td>
<td>Ships: Once per year</td>
</tr>
<tr>
<td>Sample volume: Reconstitute with 3.0 mL deionized water</td>
<td>Testing: February, June, September</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate Specific Antigen, Free</td>
</tr>
<tr>
<td>Prostate Specific Antigen, Total</td>
</tr>
</tbody>
</table>

### Endocrinology and Tumour Markers

**Code:** ENDO-A

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyophilized human serum</td>
<td>3 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 4</td>
<td>Ships: Once per year</td>
</tr>
<tr>
<td>Sample volume: Reconstitute with 5.0 mL deionized water</td>
<td>Testing: February, June, September</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-fetoprotein (AFP)</td>
</tr>
<tr>
<td>Cancer antigen 125 (CA-125)</td>
</tr>
<tr>
<td>Carcinoembryonic antigen (CEA)</td>
</tr>
<tr>
<td>Ferritin</td>
</tr>
<tr>
<td>Follicle stimulating hormone (FSH)</td>
</tr>
<tr>
<td>Free triiodothyronine (Free T3)</td>
</tr>
<tr>
<td>Free thyroxine (Free T4)</td>
</tr>
<tr>
<td>Growth hormone</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG)</td>
</tr>
<tr>
<td>Homocysteine</td>
</tr>
<tr>
<td>Insulin</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
</tr>
<tr>
<td>Prolactin</td>
</tr>
<tr>
<td>Serum folate</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
</tr>
<tr>
<td>Vitamin B12</td>
</tr>
</tbody>
</table>
## Endocrinology Special

### Code: ENDO-B

**Program Details**

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th>Lyophilized human serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of samples / survey:</td>
<td>4</td>
</tr>
<tr>
<td>Sample volume:</td>
<td>Reconstitute with 5.0 mL deionized water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3 surveys</td>
</tr>
<tr>
<td>Ships: Once per year</td>
</tr>
<tr>
<td>Testing: February, June, September</td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Aldosterone
- Androstenedione
- Cortisol
- Dehydroepiandrosterone sulfate (DHEA-S)
- Estradiol
- Progesterone
- Testosterone
- 17-OH progesterone
- 25-OH vitamin D

**NEW**

## Parathyroid Hormone

### Code: ENDO-PTH

**Program Details**

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th>Lyophilized human serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of samples / survey:</td>
<td>3</td>
</tr>
<tr>
<td>Sample volume:</td>
<td>Reconstitute with 1.0 mL deionized water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3 surveys</td>
</tr>
<tr>
<td>Ships: Once per year</td>
</tr>
<tr>
<td>Testing: February, June, September</td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Parathyroid hormone (PTH)
IMMUNOLOGY

Immunology

Code: IMGY

Program Details

Testing Material
Converted human serum
No. of samples / survey: 2
Sample volume: 1.5 mL

Annual Frequency
3 surveys
Ships: February, May, September

Analytes/Parameters Monitored

Anti-CCP Interpretation
Anti-ds DNA Interpretation
ANA (Antinuclear Antibody) Interpretation and Pattern
C3 (Complement 3)
C4 (Complement 4)
ENA (Extractable Nuclear Antigen Screen and antigens)
hsCRP (High Sensitivity C-Reactive Protein)
IgA (Immunoglobulin A)
IgE (Immunoglobulin E)
IgG (Immunoglobulin G)
IgM (Immunoglobulin M)
Protein Electrophoresis (Albumin, Alpha 1, Alpha 2, Beta, Gamma and Paraprotein Quantitation)
Rheumatoid Factor (RF) Interpretation

Immunology Web-based

Code: IMGY-WB

Program Details

Features
- Educational survey; results not assessed, ideal for training and competency assessment.

Testing Material
Clinical case study (may include accompanying images) and multiple-choice questions.

Annual Frequency
1 survey
Ships: September

Analytes/Parameters Monitored
Immunology case study
# Cytogenetics Program

## Program Details

### Features
- G-band chromosome analysis and karyotyping for four samples a year on a variety of clinical sample types.
- Two challenge surveys annually, each containing two samples: one clinical sample (wet) and one digital image case (dry).
- At least one oncology sample per year.
- One sample per year incorporates FISH.

### Testing Material
- Clinical sample may be:
  - Whole blood
  - Fixed cell pellet
  - Cell culture
  - Bone marrow
  - Slides
- Digital images (may include G-banded and/or FISH stained preparations)
- No. of samples / survey: 2
- Sample volume: varies depending on specimen type

### Analytes/Parameters Monitored
- Karyotype and/or chromosome analysis and/or FISH analysis and interpretation.

### Code: GENE

### Annual Frequency
- 2 surveys
- Ships: April, September
### Cytopathology Program

**Code:** CYTO-NG

#### Program Details

**Features**
- Rotational glass slide surveys for cytopathology (cytology).
- Slides are provided to each participant for a two-week period and must be returned to IQMH as per survey instructions.
- A static image case is included to enhance the slide-based component.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papanicolaou-stained direct smears or liquid-based preparations.</td>
<td>1 survey (rotational)</td>
</tr>
<tr>
<td>No. of samples / survey: 5</td>
<td>Ships: Starting January</td>
</tr>
<tr>
<td>Sample volume: N/A (slides)</td>
<td></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

Non-gynecological preparations (one each of):

- Body cavity fluids
- Breast aspirates
- Head and neck aspirates
- Respiratory
- Urine
Gynecological

Code: CYTO-G

Program Details

**Features**
- Rotational glass slide surveys for cytopathology (cytology)
- Slides are provided to each participant for a two-week period and must be returned to IQMH as per survey instructions.
- A static image case is included to enhance the slide-based component.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papanicolaou-stained direct smears or liquid-based preparations.</td>
<td>1 survey (rotational)</td>
</tr>
<tr>
<td>No. of samples / survey: 5</td>
<td>Ships: Starting May</td>
</tr>
<tr>
<td>Sample volume: N/A (slides)</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**
Gynecological preparations: one conventional and four liquid-based preparations.
# Hematology Program

## BONE MARROW

### Bone Marrow Slide-based and/or Digital

#### Program Details

<table>
<thead>
<tr>
<th>Features</th>
<th>Code: BONE-SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is a rotational survey where slides of a bone marrow aspirate or biopsy and peripheral blood smear are provided to each participant for a two-week period. The slides must be returned to IQMH as per survey instructions.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stained bone marrow slide preparations (aspirate and/or biopsy) and peripheral blood film, may include digital images.</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 1 (clinical sample including clinical data associated with case)</td>
<td>2 slide-based surveys are rotational</td>
</tr>
<tr>
<td>Sample volume: N/A</td>
<td>Shipping starts: February and July</td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

Identification of cell morphology of stained bone marrow slide preparations and peripheral blood films.
Bone Marrow Web-based

Program Details

**Features**
- Educational survey; results not assessed, ideal for training and competency assessment.

**Testing Material**
Photomicrograph images and multiple-choice questions.

**Annual Frequency**
1 survey
Ships: July

**Analytes/Parameters Monitored**
Bone marrow case study.

COAGULATION

D-dimer Assay

Program Details

**Testing Material**
Commercially-prepared citrated lyophilized human plasma survey material which may be spiked with purified D-dimer.
No. of samples / survey: 2
Sample volume: Reconstitute with 1.0 mL deionized water

**Annual Frequency**
2 surveys
Ships: February, September

**Analytes/Parameters Monitored**
D-dimer interpretation based on qualitative, semi-quantitative and quantitative testing.
### Factor Assay

**Code:** COAG-FA

**Program Details**

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared citrated lyophilized survey material comprised of immuno-depleted plasma.</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: February, September</td>
</tr>
<tr>
<td>Sample volume: Reconstitute with 1.0 mL deionized water</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

Factors involved in the extrinsic or intrinsic pathway.

---

### Routine Coagulation

**Code:** COAG

**Program Details**

<table>
<thead>
<tr>
<th><strong>Features</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes two routine coagulation surveys.</td>
<td>2 surveys</td>
</tr>
<tr>
<td></td>
<td>Ships: February, September</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared: lyophilized survey material comprised of plasma with known values for PT/INR, APTT, Fibrinogen, and Thrombin Time. The Heparin Assay has lyophilized samples comprised of human plasma which may be spiked with either low molecular weight heparin or unfractionated heparin.</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 3 or 4</td>
<td>Ships: February, September</td>
</tr>
<tr>
<td>Sample volume: Reconstitute with 1.0 mL deionized water</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Analytes/Parameters Monitored</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time (APTT)</td>
<td>Heparin Assay (HA)-Anti Xa</td>
</tr>
<tr>
<td>Fibrinogen Assay</td>
<td>International normalized ratio (INR)</td>
</tr>
<tr>
<td></td>
<td>Thrombin Time</td>
</tr>
</tbody>
</table>
### Coagulation Web-based

**Code:** COAG-WB

#### Program Details

<table>
<thead>
<tr>
<th>Features</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A web-based educational survey, individual laboratory performance is not assessed, ideal for training and competency assessment.</td>
<td>1 survey Ships: September</td>
</tr>
</tbody>
</table>

#### Testing Material

Coagulation case study with multiple-choice questions.

#### Analytes/Parameters Monitored

Coagulation case study.

### Thrombophilia Investigation

**Code:** COAG-TH

#### Program Details

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared frozen citrated plasma survey material comprised of immuno-depleted plasma and/or fresh platelet-poor plasma. Samples are shipped on dry ice. No. of samples / survey: 2 Sample volume: 1.0 mL</td>
<td>2 surveys Ships: February, September</td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

- Activated protein C resistance (APCR)
- Antithrombin
- Lupus anticoagulant (LA)
- Protein C
- Protein S
- Russell Viper Venom (dilute and confirm)
# FLOW CYTOMETRY

## Leukocyte Immunophenotyping for Hematologic Disorders

**Code:** FLOW-HD

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material: Part 1</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared stabilized whole blood control material</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: March, October</td>
</tr>
<tr>
<td>Sample volume: 1.5 mL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material: Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital flow cytometry data files — provided with clinical information</td>
</tr>
<tr>
<td>No. of samples / survey: 1</td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

Specific CD markers for leukocyte differentiation may change depending on sample or case, and diagnostic interpretation.

## Lymphocyte Immunophenotyping for HIV

**Code:** FLOW-HV

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared stabilized whole blood control material</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: March, October</td>
</tr>
<tr>
<td>Sample volume: 1.5 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

CD3, CD4 and CD8 enumeration
## CD34+ Stem Cell Enumeration

**Code:** FLOW-SC

### Program Details

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared stabilized whole blood control material</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: March, October</td>
</tr>
<tr>
<td>Sample volume: 1.5 mL</td>
<td></td>
</tr>
</tbody>
</table>

### Analytes/Parameters Monitored

CD34+ stem cell enumeration
### ROUTINE HEMATOLOGY

#### Automated Blood Cell Count and Leukocyte Differential

**Code:** HEMA-LD

**Program Details**

**Features**
- Participants are placed into groups based on their hematology analyzer and provided with material compatible with their instrument.

**Testing Material**
Commercially-prepared material composed of human erythrocytes, leukocytes (simulated or mammalian) and mammalian platelets suspended in a plasma-like fluid with preservatives. Provided in tubes with pierceable caps unless otherwise noted.

No. of samples / survey: 3
Sample volume: Varies

**Annual Frequency**
- 2 surveys
- Ships: April, October

**Analytes/Parameters Monitored**

<table>
<thead>
<tr>
<th>Automated leukocyte differential</th>
<th>Leukocyte count</th>
<th>Mean corpuscular volume</th>
<th>Mean platelet volume</th>
<th>Platelet count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythrocyte count</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes immature granulocytes for Sysmex analyzers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Testing Groups**

Group 1: 2.0 mL tube for 3-part differential Beckman Coulter instruments: AcT Diff, Diff 2 and DxH300.

Group 2: 3.0 mL tube for 5-part differential Beckman Coulter instruments: DxH 600, 800, 900 HmX, LH 500 and the LH 700 series.

Group 3: 3.0 mL tube for Abbott CELL-DYN instruments: 5-part differential Abbott CELL-DYN 3200, 3500, 3000, 3700, 4000, Ruby and Sapphire.

Group 4: 4.5 mL tube for Sysmex instruments: XS-1000i, XT-1800i, XT-2000i, XT-4000i, XE-2100, XE-5000, XN Series and XNL Series.

Group 5: 3.5 mL tube for Siemens instruments: 5-part differential Advia 120, 2120 and 2120i.

Group 6: 2.5 mL tube for 3-part differential Sysmex pocHi and KX-21/KX-21N and Abbott CELL-DYN1700, 1800 and Emerald.

Group 7: 2.5 mL tube for 5-part differential: Pentra 60, Pentra 60 C+, Pentra 80, Pentra 120, Pentra DX 120, Pentra Nexus and the 5-part differential Beckman Coulter AcT 5 diff, AcT diff CT and AcT 5 diff AL instruments.

Group 8: 2.0 mL vial compatible with the following manual methods: Coulter Counter Models Z, F, FN, D2, B, A series, Coulter Hemoglobinometer, Cyanmethemoglobin (manual), Centrifuged microhematocrit, Calculated MCV using centrifuged hematocrit and the semi-automated HemoCue Hb 201+. Values can be collected for WBC, RBC, HGB and HCT.
## Automated Body Fluid Cell Count

### Code: HEMA-ABF

#### Program Details

##### Features
- Simulated body fluid sample composed of stable material which provides a means to measure the red and white blood cell count in hematology instruments.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared material composed of human erythrocytes and bovine leukocytes suspended in a fluid with preservatives.</td>
<td>2 surveys Ships: April, October</td>
</tr>
</tbody>
</table>

| No. of samples / survey: | 2 |
| Sample volume: | 3.0 mL |

#### Analytes/Parameters Monitored

| Total nucleated cell count | Erythrocyte count |

#### Testing Groups

Compatible with the following automated Hematology analyzers: Beckman Coulter LH-700, DxH 600, 800, 900, Sysmex XN Series, XE-2100, XE-5000, XT-2000i, XT-4000i

## Manual Body Fluid Cell Count

### Code: HEMA-BF

#### Program Details

##### Testing Material
- Commercially-prepared material comprised of mammalian erythrocytes and leukocytes suspended in a plasma-like fluid with preservatives. The samples are similar in appearance to cerebral spinal fluid (CSF)

| No. of samples / survey: | 2 |
| Sample volume: | 2.0 mL |

#### Analytes/Parameters Monitored

| Total nucleated cell count | Erythrocyte count |
## Reticulocyte Count

**Code:** HEMA-RE

### Program Details

#### Features

- Participants are placed into groups based on their hematology analyzer and provided with material compatible with their instrument.

#### Testing Material

Commercially-prepared material composed of human and mammalian erythrocytes, suspended in a plasma-like fluid with preservatives. Provided in tubes with pierceable caps unless otherwise noted.

- No. of samples / survey: 2
- Sample volume: Varies

#### Annual Frequency

- 2 surveys
- Ships: April, October

#### Analytes/Parameters Monitored

Absolute reticulocyte count

### Testing Groups

- **Group 1:** 3.0 mL tube for Abbott CELL-DYN 3200/Ruby, 3500 and 3700 instruments
- **Group 2:** 3.0 mL tube for Coulter GEN-S and LH 500 and 700 series instruments
- **Group 3:** 3.0 mL tube for the Abbott CELL-DYN 4000/Sapphire instruments
- **Group 4:** 3.0 mL tube for Sysmex instruments: XT-2000i, XT-4000i, XE-2100, XE-5000 and XN Series
- **Group 5:** 4.0 mL tube for Siemens ADVIA 120, 2120 and 2120i instruments
- **Group 6:** 2.0 mL vials compatible with manual methods and manual with miller ocular
- **Group 7:** 3.0 mL tube for Beckman Coulter DxH 600, 800, 900 instruments
## Fetal-Maternal Hemorrhage

**Code:** HEMA-FMH

### Program Details

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerically-prepared survey material comprised of whole blood control samples.</td>
<td>2 surveys</td>
</tr>
</tbody>
</table>

- **No. of samples / survey:** 2
- **Sample volume:** 1.0 mL

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosette screening test, Fetal RhD+ cells</td>
<td>Fetal cell quantitation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three peripheral blood films (may consist of glass slides and/or digital scanned slide image[s]).</td>
</tr>
</tbody>
</table>

### MORPHOLOGY

## Peripheral Blood Film Digital and/or Slide-based

**Code:** MORP-SB

### Program Details

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three peripheral blood films (may consist of glass slides and/or digital scanned slide image[s]).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romanowsky-stained and coverslipped peripheral blood film slide preparations and/or digital scanned image(s) of the peripheral blood film.</td>
<td>3 surveys</td>
</tr>
</tbody>
</table>

- **No. of samples / survey:** 1 stained and coverslipped peripheral blood film or 1 or more digital scanned image(s) of the peripheral blood film.
- **Clinical history and relevant laboratory data included.**

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide-based: Differential and morphology descriptive statements. Reporting of the diagnosis is optional and not assessed.</td>
</tr>
</tbody>
</table>
Peripheral Blood Film Web-based

**Code:** MORP-WB

**Program Details**

**Features**

- A web-based educational survey, individual laboratory performance is not assessed, ideal for training and competency assessment.

**Testing Material**

- Case studies, photomicrograph images and multiple-choice questions for educational purposes.

**Annual Frequency**

- 1 survey
- Ships: June

**Analytes/Parameters Monitored**

Web-based: Identification of blood cell morphology consisting of photomicrographs of stained peripheral blood films and multiple-choice questions for educational purposes.

---

**RED CELL DISORDERS**

Hemoglobin Fraction Quantitation

**Code:** RCD-HQ

**Program Details**

**Features**

- Commercially stabilized whole blood products and/or lyophilized whole blood samples including relevant clinical information.

**Testing Material**

- Commercially stabilized whole blood products or lyophilized whole blood
- No. of samples / survey: 2 or 3
- Sample volume: Dependent on sample type; 0.1 mL (100 µL) to 1.0 mL whole blood products or lyophilized whole blood. Reconstitute with deionized water, as per survey instructions.

**Annual Frequency**

- 2 surveys
- Ships: April, August

**Analytes/Parameters Monitored**

- Hb H bodies
- Hemoglobin fraction quantitation
- Sickle cell solubility screen
- Variant hemoglobins quantitation
### Sickle Cell Solubility Screen

**Code:** RCD-HS  

**Program Details**

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercially-prepared survey material comprised of whole blood control samples</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: April, August</td>
</tr>
<tr>
<td>Sample volume: 0.5 to 1.0 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Sickle cell solubility screen

---

### Hemoglobinopathy Web-based

**Code:** RCD-WB  

**Program Details**

**Features**

- A web-based educational survey, individual laboratory performance is not assessed, ideal for training and competency assessment.

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobinopathy educational case study with electrophoretic tracings and multiple-choice questions.</td>
<td>1 survey</td>
</tr>
<tr>
<td></td>
<td>Ships: August</td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Hemoglobinopathy educational case study with electrophoretic tracings and multiple-choice questions.
Microbiology Program

BACTERIOLOGY

**Smears for Acid-Fast Stain**

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smears of decontaminated, homogenized, concentrated sputum prepared from authentic clinical samples.</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2 (duplicate slides of each sample provided)</td>
<td>Ships: April, October</td>
</tr>
<tr>
<td>Sample volume: N/A (slides)</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

| Detection of acid-fast bacilli from direct smears | Quantification of acid-fast bacilli |

**C. difficile Antigen and/or Toxin Detection**

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyophilized fecal specimens derived from authentic clinical samples suitable for all currently available methods including molecular.</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 2</td>
<td>Ships: April, October</td>
</tr>
<tr>
<td>Sample volume: Reconstitute with 1.0 mL deionized water</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

| Detection of Clostridioides (Clostridium) difficile antigen and/or toxin |
### Routine Bacteriology

**Program Details**

#### Features
- Includes mix of basic and complex challenges.
- At least two challenges include assessment of antimicrobial susceptibility testing in addition to organism identification.
- Includes a mix of Gram-positive, Gram-negative and fastidious microorganisms.
- Includes challenges demonstrating new and emerging resistance mechanisms.
- Detailed educational comments include method comparison.

#### Testing Material

<table>
<thead>
<tr>
<th>Lyophilized and “fresh” simulated material (varies from survey to survey)</th>
<th>3 surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of samples / survey: 3</td>
<td>Ships: January, April, October</td>
</tr>
<tr>
<td>Sample volume: Varies depending on specimen type</td>
<td></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

Isolation and identification of aerobic/anaerobic organisms (types of specimens vary from survey to survey) from:
- Antimicrobial susceptibility testing
- Blood
- Body fluids
- Genital specimens
- Gram stain interpretation
- Interpretation and reporting of antimicrobial susceptibility testing findings
- Interpretation and reporting of cultures
- Other swabs/pus
- Quantitative urine cultures
- Serological grouping and identification
- Sputum
- Stool samples
- Throat swabs
- Urine

---

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MOLECULAR MICROBIOLOGY

**C. trachomatis / N. gonorrhoeae (CGC)**

**Code:** MOLE-CGC

**Program Details**

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid samples of <em>C. trachomatis</em> and <em>N. gonorrhoeae</em></td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 4</td>
<td>Ships: April, October</td>
</tr>
<tr>
<td>Sample volume: 1.0 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Testing for *C. trachomatis* and *N. gonorrhoeae* by nucleic acid amplification techniques (NAAT)
- Nucleic Acid CT/GC (*C. trachomatis* and *N. gonorrhoeae*)

MYCOLOGY

**Mycology**

**Code:** MYCO

**Program Details**

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed educational comments provide stunning photomicrographs of the microscopic and colony morphology of challenge organisms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh cultures on agar slants</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 3–4 depending whether participant identifies dermatophytic and/or systemic fungi</td>
<td>Ships: February, August</td>
</tr>
<tr>
<td>Sample volume: N/A (cultures on slants)</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

- Isolation and identification of organisms (types of specimens vary from survey to survey) from:
- Identification of yeasts, dermatophytes, and/or non-dermatophytic filamentous fungi
## PARASITOLOGY

### Parasitology

**Code: PARA**

#### Program Details

**Features**
- Most challenges include mix of parasite species.
- A sufficient volume of preserved feces is provided to allow participants to prepare a concentrate and permanent stained smear for examination. This enables the evaluation of the total testing process.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAF-preserved feces from authentic clinical samples</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples / survey: 3</td>
<td>Ships: April, November</td>
</tr>
<tr>
<td>Sample volume: 5 mL</td>
<td></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

- Isolation and identification of organisms (types of specimens vary from survey to survey) from:
  - Wet preparation examination of stool samples
  - Preparation of fecal concentrates
  - Staining of samples for gastrointestinal parasites
- Identification and quantification of parasites
- Use of special stains
## VIROLOGY

### Hepatitis A, B, C

**Program Details**

**Features**
- Testing for hepatitis viral markers (A, B and C).

**Testing Material**
- Human serum or plasma
- No. of samples/survey: 4
- Sample volume: 1.5 mL is provided to test up to 5 viral markers; 2.5 mL is provided to test 6 or more viral markers

**Annual Frequency**
- 2 surveys
- Ships: April, October

**Analytes/Parameters Monitored**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HAV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HAV IgM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HBc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HBc IgM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HAV IgM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HBs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HCV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-HBe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBeAg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBsAg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBV immune status</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Anti-HIV

**Program Details**

**Features**
- Testing for anti-HIV 1 or 2 by standard and/or rapid methods.

**Testing Material**
- Human serum or plasma
- No. of samples / survey: 4
- Sample volume: 1.0 mL

**Annual Frequency**
- 2 surveys
- Ships: April, October

**Analytes/Parameters Monitored**

<table>
<thead>
<tr>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV antibody</td>
</tr>
</tbody>
</table>
# Infectious Mononucleosis

**Code:** VIRO-IM

## Program Details

### Features
- Testing for qualitative detection of heterophile antibodies.

### Testing Material
- **Human serum or plasma**
- **No. of samples / survey:** 4
- **Sample volume:** 0.5 mL

### Analytes/Parameters Monitored
- Heterophile antibodies

### Annual Frequency
- **2 surveys**
- **Ships:** April, October

---

# Respiratory Pathogens

**VIRO-RP**

## Program Details

### Features
- Testing for respiratory viruses by antigen detection kits and molecular techniques.

### Testing Material
- **Liquid suspension of infected cells mixed with non-infected cells and extracellular virus.**
- **No. of samples / survey:** 4
- **Sample volume:** 1.0 mL

### Analytes/Parameters Monitored
- Influenzavirus A
- Influenzavirus B
- Parainfluenzavirus 1
- Parainfluenzavirus 2
- Parainfluenzavirus 3
- Respiratory syncytial virus (RSV)
# Rubella Serology

## Program Details

### Features
- Testing for Rubella IgG antibody and interpretation of immune status.

### Testing Material
- Human serum or plasma
- No. of samples / survey: 4
- Sample volume: 1.0 mL

### Analytes/Parameters Monitored
- Rubella IgG and immune status

### Annual Frequency
- 2 surveys
- Ships: April, October
## Estrogen Receptor

### Program Details

**Features**
- Testing material sourced from clinical samples and cell blocks or a combination of both.

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-cut testing section(s) and/or cell blocks on positively-charged glass slides</td>
<td>1 survey</td>
</tr>
<tr>
<td>Tissue section and/or cell block</td>
<td>Ships: March</td>
</tr>
<tr>
<td>No. of samples / survey: Representative tissue samples per glass slide</td>
<td></td>
</tr>
<tr>
<td>Sample volume: 3–4 unstained glass slides</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**
- Estrogen receptor (ER)
Progesterone Receptor

**Features**
- Testing material sourced from clinical samples and cell blocks or a combination of both.

**Testing Material**
- Pre-cut testing sections(s) and/or cell blocks on positively-charged glass slides
- Tissue section and/or cell block
- No. of samples / survey: Representative tissue samples per glass slide
- Sample volume: 3–4 unstained glass slides

**Annual Frequency**
- 1 survey
- Ships: March

**Analytes/Parameters Monitored**
- Progesterone receptor (PR)

Her2/neu Immunohistochemistry

**Features**
- Testing material sourced from clinical samples and cell blocks or a combination of both and cell lines.

**Testing Material**
- Pre-cut testing sections(s) and/or cell blocks on positively-charged glass slides
- Tissue section and/or cell block
- No. of samples / survey: Representative tissue samples per glass slide
- Sample volume: 3–4 unstained glass slides

**Annual Frequency**
- 1 survey
- Ships: March

**Analytes/Parameters Monitored**
- Her2/neu
### Her2/neu in situ hybridization

**PATH-ISH**

**Program Details**

**Features**
- Testing material sourced from clinical samples and cell blocks or a combination of both and cell lines.
- One Her2/neu interpretive educational survey is provided annually. Peer comparison data is provided. Laboratory performance scores are not assigned.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-cut testing sections(s) and/or cell blocks on positively-charged glass slides</td>
<td>1 survey</td>
</tr>
<tr>
<td>Tissue section and/or cell block</td>
<td>Ships: March</td>
</tr>
<tr>
<td>No. of samples / survey: Representative tissue samples per glass slide</td>
<td></td>
</tr>
<tr>
<td>Sample volume: unstained glass slides</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

Her2/neu in situ hybridization

---

### Immunohistochemistry

**PATH-IHC**

**Program Details**

**Features**
- Testing material sourced from clinical samples and cell blocks or a combination of both.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-cut unstained tissue section(s) and/or cell block(s) on positively-charged glass slides</td>
<td>3 surveys</td>
</tr>
<tr>
<td>Site submitted material may be used for some immunohistochemistry surveys</td>
<td>Ships: May, July, October</td>
</tr>
<tr>
<td>Tissue section and/or cell block</td>
<td></td>
</tr>
<tr>
<td>No. of samples / survey: Representative tissue samples per glass slide</td>
<td></td>
</tr>
<tr>
<td>Sample volume: 3–4 unstained glass slides</td>
<td></td>
</tr>
</tbody>
</table>

**Analytes/Parameters Monitored**

Immunohistochemistry stains are assessed in three shipments per year.

- Two to three markers from a pool of various markers, for example: CD3, 34BE12, Calretinin, CD117, CD20, CD34, CD45, CK20, CK7, Desmin, E-cad, HMB45, Ki67, p53, p63, Pan-C, PSA, S100, Smooth muscle actin, TTF-1.
## Routine Oversight Stain (H&E or HPS) and/or Special Stain

### Program Details

#### Features
- Testing material sourced from clinical samples and cell blocks or a combination of both.

#### Testing Material
- Pre-cut unstained tissue section(s) and/or cell block(s) on positively-charged glass slides
- Site submitted material may be used for some immunohistochemistry surveys
- No. of samples / survey: Representative tissue samples per glass slide
- Sample volume: 3–4 unstained glass slides

#### Annual Frequency
- 3 surveys
- Ships: May, July, October

#### Analytes/Parameters Monitored
- Two rotations per year:
  - Routine oversight stain (H&E or HPS) and one or two Special Stains assessed in one survey round and two or three special stains assessed in other rounds of surveys.
  - Special stains (include but not limited to PAS/Diastase, Hales Colloidal Iron, Von Kossa, Reticulin, AFB, Gram, GMS, Trichrome, Elastin, Alcian Blue, Mucicarminie, Melanin)
## Point-of-Care Testing Program

**POINT-OF-CARE TESTING — CHEMISTRY**

### Point-of-Care Testing — Glucose

#### Program Details

<table>
<thead>
<tr>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each product will provide sufficient material to test and report 15 glucose meters.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilized bovine plasma</td>
<td>2 surveys</td>
</tr>
<tr>
<td>No. of samples/survey: 3</td>
<td>Ships: May, October</td>
</tr>
<tr>
<td>Sample volume: 1.0 mL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC glucose</td>
</tr>
</tbody>
</table>

*POCT-GL*
### Chemistry — Blood Gas

**Code: CHEM-BG**

#### Program Details

**Features**
- Samples contain relevant parameters set to clinically significant ranges of acid-base and electrolyte balance, respiratory function and metabolites concentration.
- **NOTE:** Results will be included with and assessed as part of the chemistry blood gas (CHEM-BG) survey.

#### Testing Material

<table>
<thead>
<tr>
<th>Aqueous commercial preparation</th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of samples / survey:</strong> 2</td>
<td><strong>2 surveys</strong></td>
</tr>
<tr>
<td><strong>Sample volume:</strong> 2.5 mL</td>
<td><strong>Ships: March, August</strong></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>Chloride</th>
<th>Lactate</th>
<th>Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>pCO2</td>
<td>Sodium</td>
</tr>
<tr>
<td>Glucose</td>
<td>pH</td>
<td>Urea</td>
</tr>
<tr>
<td>Ionized Calcium</td>
<td>pO2</td>
<td></td>
</tr>
</tbody>
</table>

### Chemistry — Fecal Occult Blood

**Code: CHEM-FOB**

#### Program Details

**Features**
- Suitable for all methodologies. Participants can expect to submit qualitative results, such as: positive and negative.
- **NOTE:** Results will be included with and assessed as part of the chemistry fecal occult blood (CHEM-FOB) survey.

#### Testing Material

<table>
<thead>
<tr>
<th>Simulated fecal product</th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of samples / survey:</strong> 3</td>
<td><strong>3 surveys</strong></td>
</tr>
<tr>
<td><strong>Sample volume:</strong> 2.0 mL</td>
<td><strong>Ships: February, May, September</strong></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

Fecal occult blood
# Chemistry — HbA1c

**Code:** CHEM-HB

## Program Details

### Features
- Results are assessed against the National Glycohemoglobin Standardization Program (NGSP) reference method.
- **Note:** Results will be included with and assessed as part of the CHEM-HB survey.

### Testing Material
- **Single donor whole blood**
- **No. of samples / survey:** 2
- **Sample volume:** 0.5 mL

### Testing Material
- **Single donor whole blood**
- **No. of samples / survey:** 2
- **Sample volume:** 0.5 mL

### Annual Frequency
- **3 surveys**
- **Ships:** February, May, September

### Analytes/Parameters Monitored
- HbA1c

---

# Chemistry — Oximetry

**Code:** CHEM-OX

## Program Details

### Features
- Suitable for laboratory instruments and point-of-care testing devices.
- A dual chambered device keeps the two fractions separated, preventing reactions between components. When ready, the user simply pushes a button to allow the fractions to combine. The sample is mixed and is stable for 15 minutes. A syringe is required for sample application.
- **IMPORTANT:** Not suitable for use with Radiometer ABL90 instruments.
- **Note:** Results will be included with and assessed as part of the chemistry oximetry (CHEM-OX) survey.

### Testing Material
- **Hemolsate of purified bovine hemoglobin**
- **No. of samples / survey:** 3
- **Sample volume:** 2 mL

### Annual Frequency
- **2 surveys**
- **Ships:** March, August

### Analytes/Parameters Monitored
- Carboxyhemoglobin
- Methemoglobin
- Oxyhemoglobin
- Total Hemoglobin

---
## Urine Drug Screen

### Program Details

**Features**
- Suitable for laboratory instruments and point-of-care testing devices.
- **Note:** Results will be included with and assessed as part of the DRUG-UR survey.

### Testing Material

- Human urine supplemented with selected drugs
- No. of samples / survey: 3
- Sample volume: 1.5 mL

### Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>Analytes/Parameters Monitor</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines/Methamphetamine Group</td>
<td>2 surveys</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>Ships: March, August</td>
</tr>
<tr>
<td>Barbiturates</td>
<td></td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td></td>
</tr>
<tr>
<td>Cannabinoid Metabolites (THC)</td>
<td></td>
</tr>
<tr>
<td>Cocaine Metabolites</td>
<td></td>
</tr>
<tr>
<td>Ecstasy (MDMA/MDA)</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td></td>
</tr>
<tr>
<td>Methadone</td>
<td></td>
</tr>
<tr>
<td>Methadone Metabolite (EDDP)</td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td></td>
</tr>
<tr>
<td>Opiates</td>
<td></td>
</tr>
<tr>
<td>Oxycodone</td>
<td></td>
</tr>
<tr>
<td>Phencyclidine (PCP)</td>
<td></td>
</tr>
<tr>
<td>Propoxyphene — <strong>NEW</strong></td>
<td></td>
</tr>
<tr>
<td>Tricyclic Antidepressants</td>
<td></td>
</tr>
</tbody>
</table>

## Anti-HIV

### Program Details

**Features**
- Testing for anti-HIV 1 or 2 by standard and/or rapid methods.
- **Note:** Results will be included with and assessed as part of the microbiology virology (VIRO-HIV) survey.

### Testing Material

- Human serum or plasma
- No. of samples / survey: 4
- Sample volume: 1.0 mL

### Analytes/Parameters Monitored

- HIV antibody
### Transfusion Medicine — Manual A (Advanced)  
**TMED-A**

#### Program Details

**Features**
- Each survey includes: four challenges for ABO/Rh, antibody detection and DAT; two challenges for antibody identification, phenotyping and crossmatching; at least one challenge for antibody titration (one survey will include two, for a total of four challenges per year).
- Surveys are designed around relevant clinical situations typically seen in transfusion medicine laboratories, to support the quality improvement of laboratory services.
- Surveys may also include questions appropriate to the clinical situation being reviewed, which may be assessed.

<table>
<thead>
<tr>
<th>Testing Material</th>
<th>Annual Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human serum; red cells suspended in preservative</td>
<td>3 surveys</td>
</tr>
<tr>
<td>No. of samples / survey:</td>
<td>Ships: March, June, September</td>
</tr>
<tr>
<td>Four 2.0 mL 4% red blood cell suspensions</td>
<td></td>
</tr>
<tr>
<td>Four 4.0 mL corresponding serum samples</td>
<td></td>
</tr>
<tr>
<td>One 2.0 mL donor red blood cell suspension</td>
<td></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>ABO</th>
<th>Crossmatch</th>
<th>Rh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody detection</td>
<td>Direct antiglobulin test</td>
<td>Titration</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>Phenotype</td>
<td></td>
</tr>
</tbody>
</table>

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### Transfusion Medicine — Manual B (Basic)  
**TMED-B**

#### Program Details

**Features**
- Each survey includes: four challenges for ABO/Rh, antibody detection and DAT; two challenges for crossmatching.
- Surveys are designed around relevant clinical situations typically seen in transfusion medicine laboratories, to support the quality improvement of laboratory services.
- Surveys may also include questions appropriate to the clinical situation being reviewed, which may be assessed.

<table>
<thead>
<tr>
<th><strong>Testing Material</strong></th>
<th><strong>Annual Frequency</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Human serum; red cells suspended in preservative</td>
<td>3 surveys</td>
</tr>
<tr>
<td>No. of samples / survey:</td>
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</tr>
<tr>
<td>One 2.0 mL donor red blood cell suspension</td>
<td></td>
</tr>
</tbody>
</table>

#### Analytes/Parameters Monitored

<table>
<thead>
<tr>
<th>ABO</th>
<th>Crossmatch</th>
<th>Rh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody detection</td>
<td>Direct antiglobulin test</td>
<td></td>
</tr>
</tbody>
</table>
## Transfusion Medicine — Manual B (Basic)  
Direct Antiglobulin Test (DAT) Only  

### TMED-B-DAT

### Program Details

#### Features
- Each survey includes: four challenges for DAT.
- Survey material is suitable for manual DAT testing.

#### Testing Material
- Human red cells suspended in preservative
- No. of samples / survey: Four 2.0 mL 4% red blood cell suspensions

#### Analytes/Parameters Monitored
- Direct antiglobulin test

#### Annual Frequency
- 3 surveys
- Ships: March, June, September

## Transfusion Medicine — Automation  

### TMED-AU

### Program Details

#### Features
- Automation challenges are intended for laboratories that use automated instruments to perform ABO/Rh, antibody detection, antibody identification.

#### Testing Material
- Simulated whole blood
- No. of samples / survey: 3
- Sample volume: 4 mL

#### Analytes/Parameters Monitored
- ABO
- Antibody Detection
- Antibody Identification
- Rh

#### Annual Frequency
- 2 surveys
- Ships: June, September
APPENDIX A: PARTICIPATING IN THE IQMH PROFICIENCY TESTING PROGRAM

**Potential Client/Existing Client**

- Reviews and considers IQMH Proficiency Testing programs: [https://iqmh.org/Services/Centre-For-Proficiency-Testing/PT-Catalogue](https://iqmh.org/Services/Centre-For-Proficiency-Testing/PT-Catalogue)

- Requests a quote using IQMH Proficiency Testing Quote Tool (web application): [https://iqmh.org/Apps/PTQuoteRequest](https://iqmh.org/Apps/PTQuoteRequest)

- Accept quote

**IQMH**

- Create and send quote to client

- Create invoice and email to client

- For new clients, create client QView™ account and share account information with new client by email

- Send PT samples according to survey schedule [https://iqmh.org/Services/Centre-For-Proficiency-Testing/Proficiency-Testing-Schedule](https://iqmh.org/Services/Centre-For-Proficiency-Testing/Proficiency-Testing-Schedule)

- Assess survey results. Post survey performance reports and discordant findings investigation (DFI) forms to QView™

- Notify client that survey reports and DFI forms available in QView™

- Review DFI forms. Present issues for Scientific Committee review

- Prepare committee response as correspondence to client

- Receive and review correspondence regarding discordant results. Take appropriate actions.
Contact

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