Newsletter Working Group: Jenmei He, Leah Young, Veenita Singh

Dr. Natalie Prystajecky

Natalie first discovered a passion for water quality through an NSERC Undergraduate Student Research Award, where she contributed to research on bacteriological contamination in groundwater in agriculturally intensive regions. This early experience sparked a deeper interest that led to a PhD focused on waterborne parasites—specifically Giardia and Cryptosporidium—and their presence in raw and finished water.

Natalie works at the BCCDC as Program Head for the Environmental Microbiology Program and Co-Program Head

of the Molecular and Microbial Genomics program at the BCCDC Public Health Laboratory. She is also a Clinical Associate Professor at the University of British Columbia. She has a long history with EWQA, first joining the organization as the Provincial Coordinator in 2011. When she moved on to become Program Head of Environmental Microbiology in 2016, her involvement continued as a Steering Committee member and also serves as Delegate Chair.

Deeply committed to EWQA's mission, Natalie is passionate about supporting highquality laboratory testing for water systems across the province—an essential service that protects public health and supports communities.

Outside of work, Natalie is a proud mom of two girls and enjoys exploring the great outdoors with her family, including biking, skiing and camping.

EWQA Auditor Workshop date:

September 19, 2025

EWQA Provincial Coordinator: Caleb Lee Caleb.Lee@bccdc.ca

655 West 12th Avenue, Vancouver, B.C. V5Z 4R4 Canada



What's New

Article 1: Getting to know Dr. Natalie Prystajecky

Article 2: Risk Assessment: EWOA Checklist as a Tool

Risk Assessment: EWQA Checklist as a Tool

In drinking water laboratories, the prime directive is to deliver accurate, timely data that helps protect public health by ensuring clean, healthful drinking water. A single systematic error could miss E coli in a sample or trigger an unnecessary boil water advisory. Risk assessment helps focus limited QA resources on what matters most. Four ways to identify and mitigate risk:

- Evaluate entire workflow for risks from sample collection through reporting
- Participate in proficiency testing
- External evaluation (EWQA onsite audits)
- Internal controls (day to day checks)

Risk Matrix

Labs should identify risks and can then score and prioritizes by **likelihood** (probability) and **consequence** (impact) and apply controls to focus first on the most critical areas. Quantifying and stratifying risks can be accomplished by assigning numerical values to the 2 dimensions and creating a risk matrix, for example as a simple 3x3 matrix of probability x impact.



The EWQA checklist can be used to help build a risk matrix and spot check performance. Each item is separate but also part of a system or bigger picture.

Frequency of noncompliance elevates risk whether alone or in combination.

- One item, once: lowest risk
- Multiple items once, or one item multiple times: higher risk
- Multiple items multiple times: highest risk

Item	Requirement	Consequence
6.7.2	Dehydrated media is discarded by the manufacturer's expiration date	Poorly performing media affects accuracy and reliability of results
6.7.3	Unused prepared media is discarded after expiration date	As above
6.7.5	Autoclaved membrane filters, pads, and media are removed immediately upon completion of sterilization cycle	Overexposure to heat degrades performance
6.7.8	Commercially prepared dehydrated media is stored in a cool dry location away from direct sunlight	Improper storage can degrade media
6.7.11	Use test is performed when a new source or a new lot of dehydrated culture medium is used, comparing the new source/lot to the old source/lot	Underperforming media not detected
6.7.13	Each batch of prepared medium is checked before use as below	Poorly performing batch not detected

Trace of tests

Trace of tests can be used to quickly spot check traceability and reduce errors by identifying areas for improvement. A quick trace reference list can be customized for your own lab from the checklist.

Pick one final result (a positive E coli result is ideal as it also touches on immediate reporting requirements) and work backward through:

- Reporting and documentation
- Analytical method/conduct of testing
- Incubator
- Media
- Reagent water
- Thermometer calibration
- Volumetric accuracy
- Sample bottle QC

Feed results back into your risk matrix. Recurring noncompliant patterns identify areas of higher risk.

Risk based thinking helps prevent single errors and flags systemic issues early, helping to safeguard drinking water quality and safety by ensuring labs are providing accurate, timely results. The EWQA checklist can help develop a risk register and be used as a quick reference guide for routine spot checks.