

COVID-19 Strategic Sharing Group: Water Utility Management Response

Meeting Date May 22, 2020 from 1:00 p.m. – 2:30 p.m. EDT
Facilitator Sandra Cooke, Canadian Water Network

There were 23 municipalities participating from coast to coast (see the [attendee list](#)).

The objective of the meeting was to explore epidemiological approaches to effectively anticipate and respond to future waves of COVID-19 in municipalities across Canada. As municipalities/utilities navigate unprecedented times in scaling back up, they must simultaneously be agile over the next 18-24 months and continue to adapt operations to ensure the provision of water and wastewater services in the event of future waves of the pandemic (see the [meeting agenda](#)).

The discussion kicked-off with a presentation by guest expert, Steve Hrudehy, professor emeritus at the Faculty of Medicine and Dentistry at the University of Alberta, who explored wastewater epidemiology as an early indicator of a second wave. The second half of the meeting engaged the participating municipalities/utilities in a discussion on the planning and preparation for successive scaling up and scaling down should multiple waves occur. Sandra Cooke closed the meeting with a summary of highlights from a worldwide COVID sharing group hosted by Isle Utilities, which pointed out the overlap of concerns, challenges, and responses being experienced and implemented by utilities nationally and on a global scale. [Note: Post meeting supplemental information: The [Global Water Research Coalition](#), to which Canadian Water Network is a contributing member, also supports a global Knowledge Sharing Hub for information related to the COVID-19 pandemic. Water Services Association of Australia (WSAA) is hosting this International Water Utility Community of Practice for COVID-19 that CWN and some of you may be participating on.]

- Below is a list of the specific topics which were discussed: The potential for wastewater epidemiology to be an effective tool for a pan-Canadian approach in providing early indication of future waves of the pandemic including:
 - standardized sampling procedures; design principles to effectively kick-start a pilot study for wastewater epidemiology; and the benefits of epidemiological sampling and clinical sampling.
- Considerations for municipality/utility response to future waves of the pandemic including:
 - scaling up and scaling back down of operations; return-to-work plans for staff; risk profiles/assessments to prioritize bringing staff back onsite; considerations for permanent updates/changes to staffing and services.

- Recommissioning of buildings followed prolonged periods of low or no occupancy
Including:
 - updates on recommissioning plans and guidelines.

Summary of Municipality/Utility Actions

Discussion Topic 1: Guest expert presentation – The potential for future waves of the COVID-19 pandemic and the importance of municipal wastewater utilities in proactive response

Dr. Steve E. Hrudehy, Professor Emeritus, Analytical & Environmental Toxicology, Faculty of Medicine & Dentistry, University of Alberta

As provinces begin to slowly re-open across the country, the potential for future waves of the pandemic is a topic of great importance. Although the extent of a future waves cannot be predicted, it is nevertheless important to not only plan for the possibility, but also be armed with the information to respond quickly should the need arise. In his guest presentation, Dr. Steve Hrudehy shared his insights into what the future of the pandemic may look like and how municipalities/utilities could play an important role in the public health response. The key points from Dr. Hrudehy's presentation are summarized below.

- Because Canada is a large country, **the rate and degree of COVID-19 spread differs greatly from coast to coast to coast.** Although the number of new cases is dropping for the entire country, the pandemic spreads by exponential growth and so **by the time you determine that you are on the steep rising side of the curve, it is likely too late to lower the growth rate of the pandemic.**
- Currently, only a small fraction of the Canadian population has been exposed to COVID-19 and the global population does not have an immunity to the virus. The way diverse populations react to the virus will likely be different, especially under conditions of close proximity such as in airplanes or meat processing plants, but **it is inevitable that we will see COVID-19 flare-ups until we have an effective vaccine.**
- **The biggest concern for a second wave is that it might overlap with flu season.** The combination of demands might result in a scenario where the capacity of available resources is exceeded.
- **Wastewater surveillance will give an effective early indication of community spread of COVID-19 before a second wave begins so that municipalities/utilities and public health units can effectively respond.**
- Through wastewater sampling, processing, and preservation/archiving, one can accurately detect any trends in wastewater that correlate with trends in clinical cases, which in turn could provide an early warning of a future wave of infections.

- The type of methodology developed for wastewater surveillance will be dependent on many factors and **successfully accomplishing an effective national scale surveillance system would require a consistent sampling protocol**. This would include elements such as where samples are to be collected, how they are handled, how they are stored, etc.
- Dr. Hrudehy and the [National Research Advisory Group](#) the Canadian Coalition on Wastewater-Related COVID-19 Research established **eight design principles to effectively kick-start a pilot monitoring program for wastewater surveillance and epidemiology**. These principles are listed below.
 - Clearly define the pilot monitoring program objectives.
 - Achieve rapid validation and adoption of a consistent Canadian sampling protocol
 - Confirm the validity of wastewater sampling protocol for SARS-CoV-2
 - Ensure potential for generalizability by fully understanding what samples represent.
 - Maximize value of results through strategic pilot project design
 - Maximize potential for productive collaboration with wastewater utilities
 - Maximize collaboration, cooperation, and knowledge exchange
 - Consider ultimate use and ethics of data use in Public health decision making
- Current understanding of SARS-CoV2 is that it does not appear to remain infective in feces or in wastewater, the risk to wastewater workers is no greater than from other enteric viruses already found in wastewater. As a result, **the way wastewater is handled when collecting samples is not anticipated to change from pre-established protocols**.
- A standardized sampling protocol is anticipated before the end of May.

In the discussion that followed Dr. Hrudehy's presentation, several key themes emerged with respect to ongoing considerations and challenges for standardized sampling protocols, lab capacity, cost of wastewater sampling, and support from federal and provincial governments.

- **Wastewater sampling is a low cost option with a high reward**. For municipalities/utilities that have the capacity and equipment to test, they are able to participate in the monitoring program right away. In the same vein, **collecting samples now and freezing and archiving them for later analysis to keep up with lab capacity is also a viable option**.
- The wastewater utility can play an important role in COVID-19 response by collecting regular samples and making them available to their local public health unit. **To understand the trends as they unfold in different parts of the country, collecting as many wastewater samples as possible will be vital**.

- **Testing daily is preferable** in determining any kind of trend; however, testing weekly at a minimum will still yield a suitable sample size.
- Public Health labs have the specialized equipment and trained staff to analyze the wastewater samples. However, relying solely on these labs will limit capacity. **To maximize throughput and take on a new sampling load, government assistance is required.**

Discussion Topic 2: Responding to potential multiple waves of the pandemic and planning for successive scaling up and down of operations

Although different parts of the country have experienced varying degrees of COVID-19 spread, provinces have nevertheless had to respond quickly by shutting down many parts of the economy to prevent further spread. This has resulted in several operational and service changes at the municipality/utility level and the subsequent development of a new “normal”. The need to be agile over the next 18-24 months may be paramount in ensuring the continued provision of water and wastewater services. To plan for potential future waves of the pandemic, municipalities/utilities must continue to adapt their services and operations moving forward.

Below is a summary of the key challenges, considerations, and lessons learned in effectively responding to future waves of the pandemic.

- Many municipalities/utilities are working closely with public health units to **develop return-to-work plans for staff** including administrative, construction and maintenance/operations staff with the primary focus being on ensuring physical distancing and the health and safety of staff.
 - Some plans being introduced include **risk profiles/assessments to determine which staff to bring onsite first and to what extent.** Other municipalities/utilities are planning to bring staff onsite in phases.
- **The general approach adopted by municipalities/utilities has been to keep staff at home who can successfully and productively work from home.** Some municipalities have indicated that staff who are currently working from home and who can successfully continue to do so will potentially continue to work from home in the long term, with one municipality highlighting that it is safer and more cost-effective to keep staff working from home than to retrofit office space to ensure physical distancing.

Looking Ahead: Opportunities to Consider and Emerging Challenge Areas

- **The scaling back up of many services will require collaboration and coordination with multiple stakeholder groups.** Some municipalities anticipate this might be challenging depending on the stage of the scaling up phase which each group is in.
- Municipalities/utilities expressed an interest in knowing how others were developing a plan for and communicating with customers on the recommissioning of buildings. In some places, the provincial government has taken the lead on recommissioning guidelines, whereas in others, the municipality/utility has responded directly. Guidelines that were shared by participants are available at the following links:
 - [Utilities Kingston](#)
 - [EPCOR Water Services](#)
 - [Halifax Water](#)
 - [Province of Quebec](#)
 - [Province of Alberta](#)
 - Canadian Water and Wastewater Association ([CWWA](#))
- Municipalities expressed an interest in learning more about procedures their cohorts are using when entering residential or other properties to conduct essential maintenance and repairs. While some were adopting approaches that included customers sending photos of private-side water/wastewater system issues or engaging in phone calls to first determine the necessity of a home visit, others had described a process of re-thinking the way they have traditionally provided services. For many municipalities/utilities, planning for residential or other customer visits is still underway.

Other information shared by participants include:

- A study completed by EPCOR Water Services to evaluate the impact on water consumption in Edmonton and Region, Susan Ancel [See attachment]
- Work Environment Needs matrix shared by Susan Ancel, EPCOR Water Services [See attachment]
- A corporate procedure shared by Michelle Warywoda, City of Thunder Bay on Screening Questions and Worker Entry into Residences During COVID-19 pandemic [See attachment]
- A memorandum shared by Tim Shanks, City of Winnipeg regarding Employees Accessing Customer Homes/Businesses [See attachment]


 Canadian Water Network's
Canadian Municipal Water Consortium

Attendees

Municipality/Utility	Name
Alberta Capital Region Wastewater Commission	Wade Teveniuk
Canadian Water and Wastewater Association	Robert Haller
City of Abbotsford	Jamie Austin
City of Calgary	Nancy Stalker
City of Calgary	Jesse Aylward
City of Calgary	Martin Pollard
City of Calgary	Meaghan McClurg
City of Guelph	Arun Hindupur
City of Hamilton	Andrew Grice
City of Kitchener	Leah Walter
City of Medicine Hat	John Michalopoulos
City of Montreal	Carole Fleury
City of Ottawa	Tammy Rose
City of Regina	Kurtis Doney
City of Surrey	Tara Macrae
City of Thunder Bay	Michelle Warywoda
City of Vancouver	Andrea Becker
City of Vancouver	Michelle Revesz
City of Vancouver	Michael Irvine
City of Vancouver	Sam Li
City of Winnipeg	Tim Shanks
City of Winnipeg	Terry Josephson
City of Winnipeg	Duane Griffin
CWN Board	Carl Yates
EPCOR	Susan Ancel
EPCOR	Stephen Craik
Halifax Water	Wendy Krkosek
Metro Vancouver	Andjela Knezevic-Stevanovic
Metro Vancouver	Peter Navratil
Metro Vancouver	Lucas Pitts
Ontario Clean Water Agency (OCWA)	Alicia Fraser
Region of Durham	John Presta
Region of Durham	Janine
Region of Peel	Jeff Hennings
Region of Peel	Elaine Gilliland
Union Water Supply System	Rodney Bouchard
Utilities Kingston	Allen Lucas

York Region	Beth Weir
York Region	Jennifer Khemai

Agenda

Agenda: COVID-19 Peer-sharing – Water Utility Management Response	
Friday May 22, 2020 1:00 – 2:30 pm EDT	
1:00 – 1:10 pm	<p>Welcome and Introductions</p> <ul style="list-style-type: none"> Review call structure, update on action items, reaching out to your neighboring municipalities
1:10 – 1:40 pm	<p>Topic 1: Guest Expert: What is the likelihood of future waves of the COVID-19 pandemic and the importance of municipal wastewater utilities in proactive response?</p> <p>Dr. Steve E. Hrudehy, Professor Emeritus, Analytical & Environmental Toxicology, Faculty of Medicine & Dentistry, University of Alberta</p> <p>Business continuity, including maintaining a level of service and staffing, will be undoubtedly affected with potential future waves of the pandemic. What that may look like is not known. Dr. Hrudehy will share his insights into what the future of the pandemic may look like and how best utilities can help public health response.</p>
1:40 – 2:05 pm	<p>Topic 2: Responding to potential multiple waves of the pandemic – what does successive scaling-up and down of operations look like?</p> <p>The need to be agile over the next 18-24 months may be paramount to ensure water and wastewater services. To plan for this, municipalities / utilities must be able to continue to adapt their services and operations moving forward. What are some of the key things your utility plans to do to respond to future waves of the pandemic, based on lessons learned?</p>
2:05 – 2:15 pm	<p>Open Q & A</p> <p>Pose questions for the Strategic Sharing Group on additional topics for others to weigh in on and share their learning. E.g. what is a key challenge your utility is currently facing?</p>
2:15 – 2:25 pm	<p>Highlights from a Worldwide COVID sharing group</p> <p>Isle Utilities, a for-profit agency based in the UK focused on bringing new technologies to market has hosted a WhatsApp 'chat group' with utilities across the world. Piers Clark has curated the chat and provide weekly summaries. CWN staff will share highlights from this international sharing group.</p>

Canadian Water Network's 
Canadian Municipal Water Consortium

2:25 – 2:30pm	Wrap-up <ul style="list-style-type: none">• Next Meeting – June 12, 2020 @ 1:00 PM EDT Proposed Focus: Possible infrastructure stimulus funding and the approaches to maximize co-benefits for climate and resilience.
---------------	--