Analyzing Digital Public Communication of the Niagara Region during COVID19 using Web Archive Collections

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Fletcher Johnson
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June 2nd, 2022
Vancouver, BC
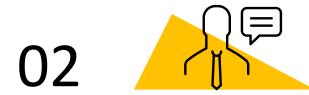
Brock University + Archives Unleashed = ♥

Table of Contents

The Team

Brock University

01

Fletcher

Tim

David

Cal

Duncan

Karen
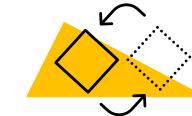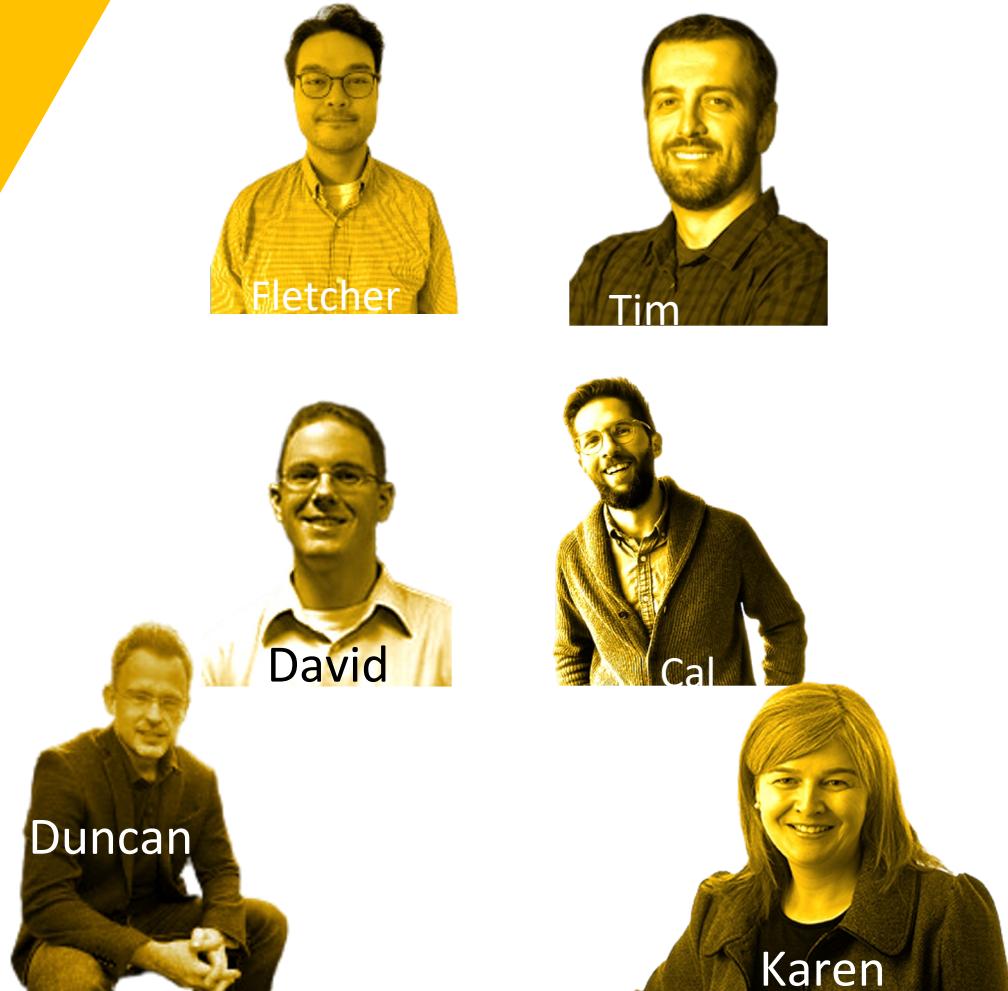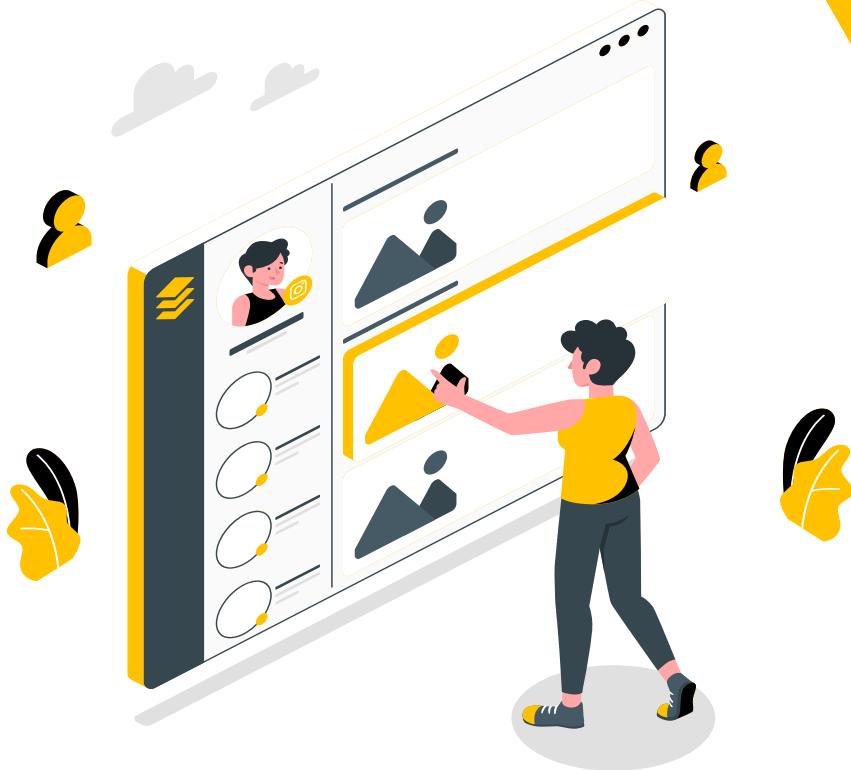
The

Project

02
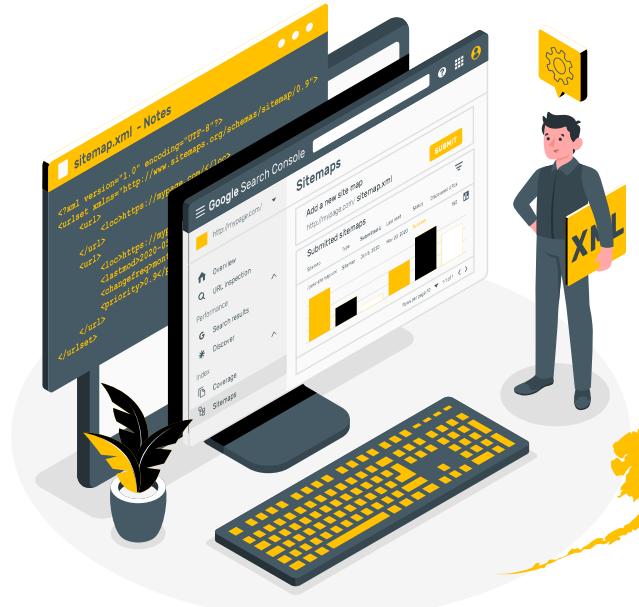
The COVID19 in Niagara Collection

SUMMARY

Created using Archive-It. 56 'key local institutions.'

SIZE
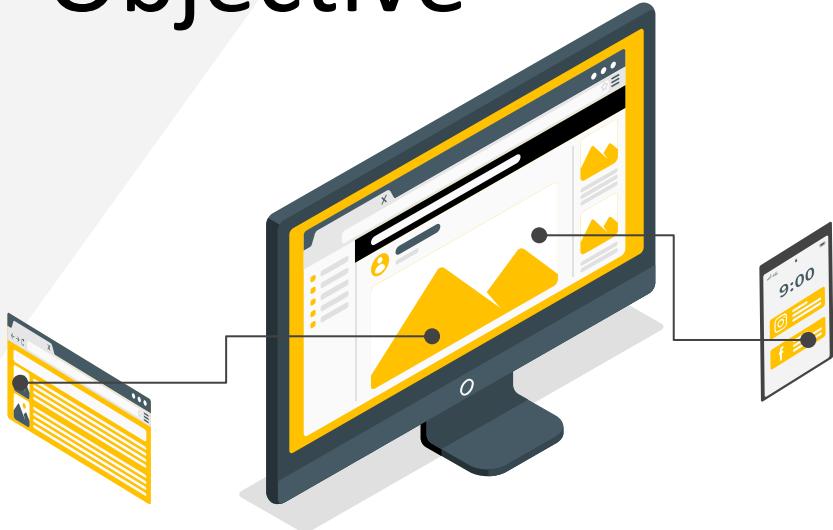
Over 300gb
Over 3.5 million documents

PERIOD
March 2020 — December 2021

Objective

- Analyze the communication of **one** specific administrative region of Ontario, the Niagara Region, to understand the extent and effectiveness of its municipalities' pandemic digital communication (web sites and social media);
- Using a *crisis communication* framework, we ask how municipal communication functioned as risk and crisis communication.

Crisis Communication

aims to "provide people with information that can enhance their ability to cope with the situation at hand"

Education

Communicating best practices.

Information

Communicating operational updates.
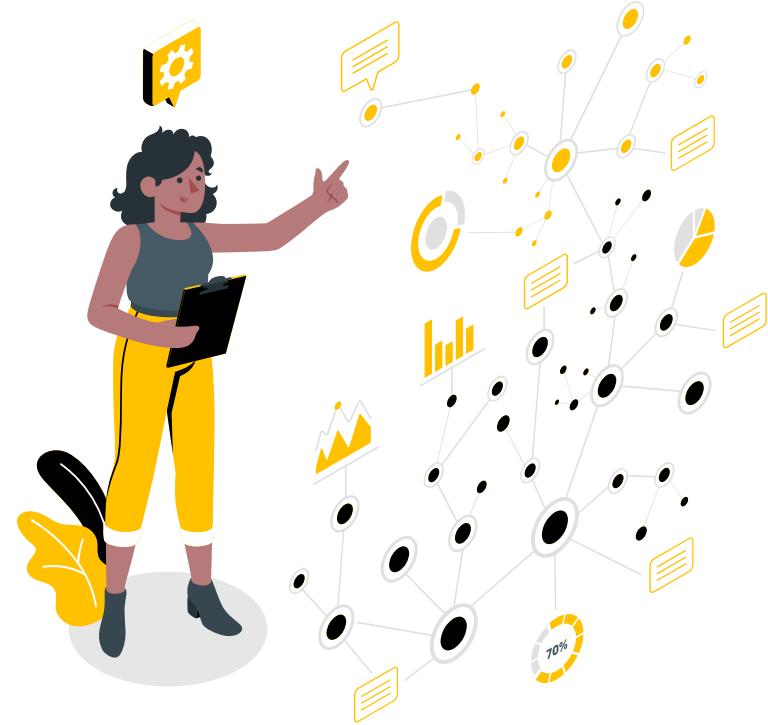
Engagement
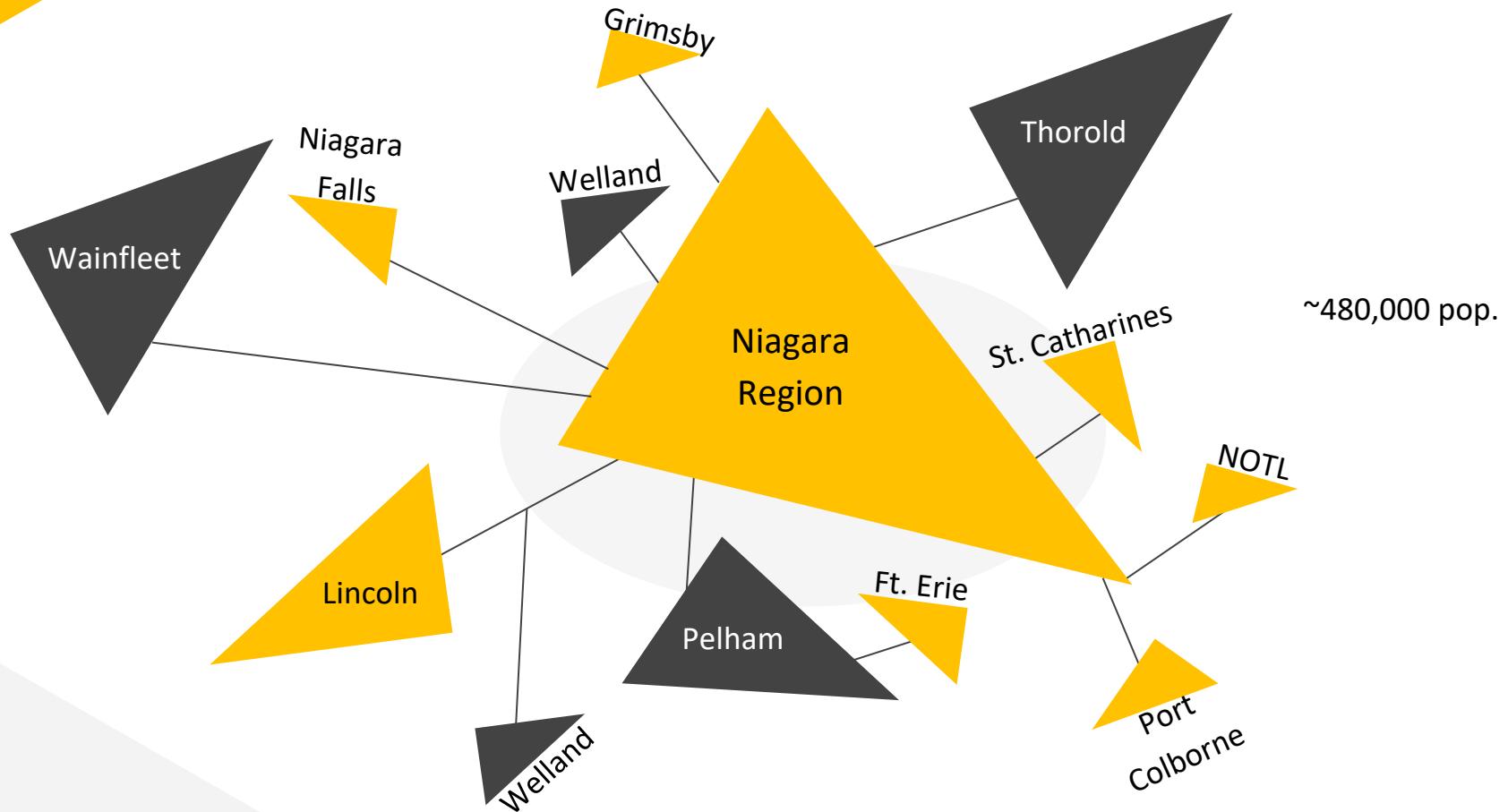
Engaging the community to promote action (or, in the case of COVID, inaction).

Our methods

03

13 Regional Municipalities

~480,000 pop.

Public Health Infrastructure

Provincial Ministry of Health

Regional Public Health

Township

'Mixed' Methods

Close Reading

Led by Duncan Koerber, considering web pages <u>as documents.</u>
**Leveraging WayBack and SolrWayback.**
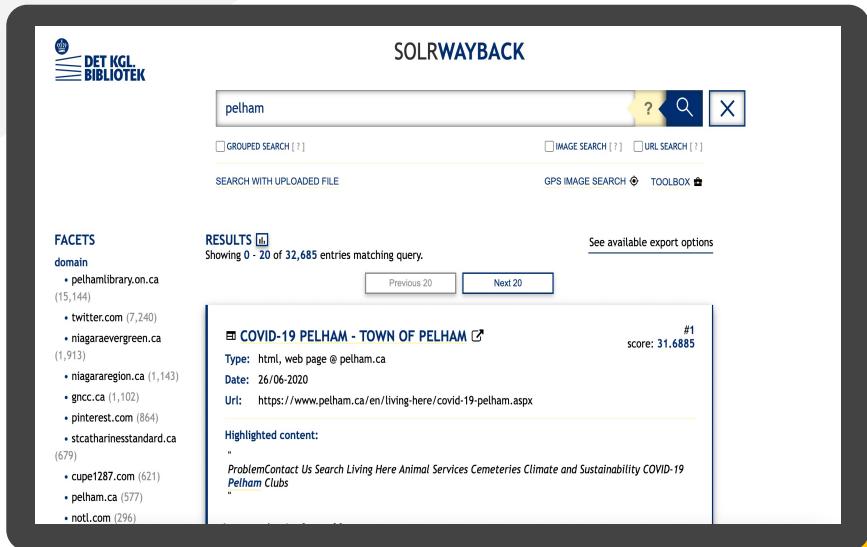
'Distant' Reading
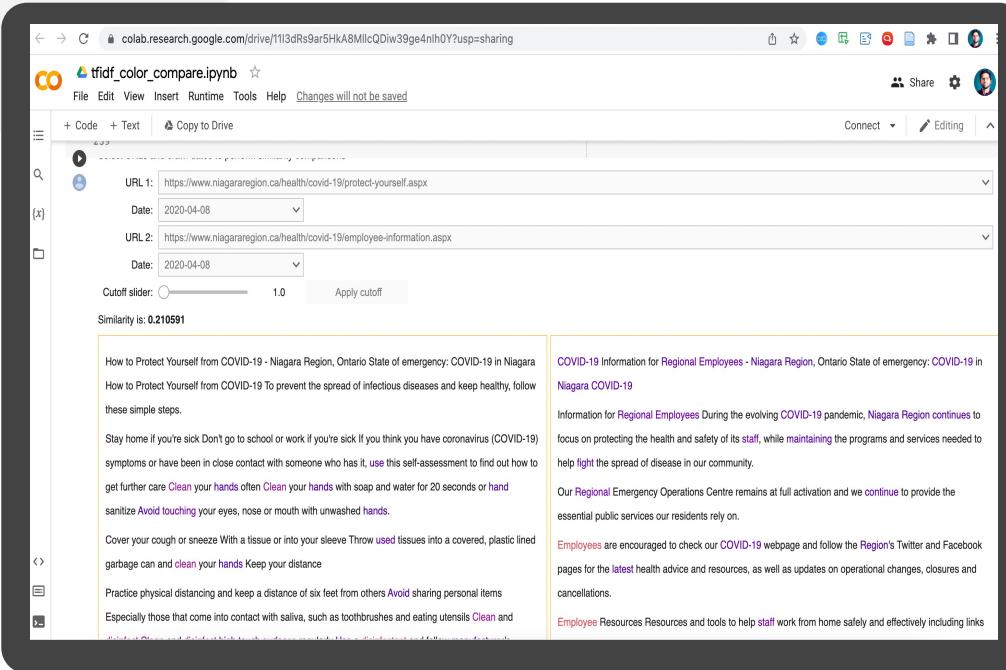
Led by Tim Ribaric and Fletcher Johnson.
Leveraging ARCH and Google Colab.

Wayback and Solr

Screenshot of our Solr instance.

Google Colab
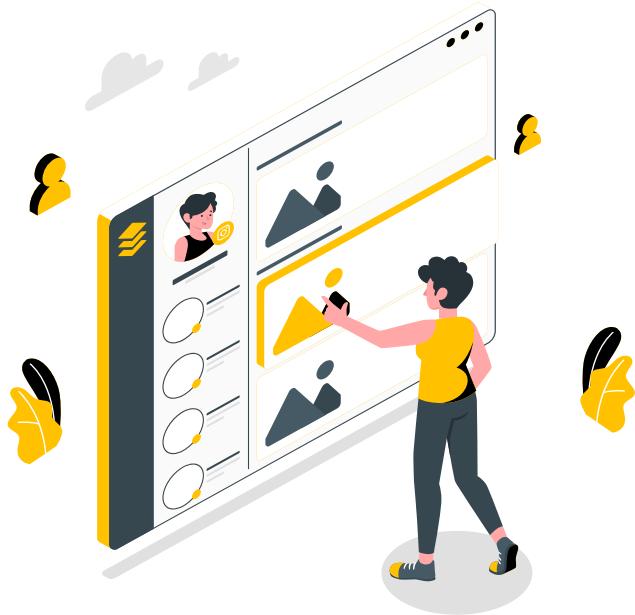
Screenshot of a Colab notebook using TFIDF to compare versions of webpages.

Using Niagara Region as the benchmark, we compare similarity.

Preliminary Results

04

Early pandemic

- Generally, municipalities had a coordinated response to the pandemic in the early days

- Largely mirroring the message from Niagara Region and the Regional Public Health Network

- Largest discrepancies were in the presentation and design of municipal pages dedicated to COVID (Port Colborne, for instance, used one running web page, continuously adding to the page over a number of months).

Public Education Effort

- Recognizing a deficit in knowledge about the virus, municipal webpages first functioned to teach citizens about the basic practices of infection control.

- Instructions mirrored Niagara Region almost verbatim, and analysis suggests these instructions changed very little over the last two years.

- However, mistakes and inconsistencies were also apparent.

City of Welland - COVID-19 Fact Sheet
Monday, March 23, 2020

COVID-19 can still be active when they land on a surface, this is why cleaning has been increased, and everyone is asked to wash their hands regularly and keep their hands away from their face.

Is the virus airborne or droplet spread?
COVID-19 is not airborne, so you cannot inhale the COVID-19 virus. You can contract it through kissing, mouth to mouth contact or by putting contaminated items (fingers, pens, etc.) in your mouth, eyes, nose. You should not ingest the droplets of other people, like inhaling droplets from others (this is why distance is essential).

Virus Life on Surfaces?
COVID-19 has a short life on surfaces; on hard surfaces, it begins to die immediately and is dies off within several hours. On cardboard (paper products), it has a life expectancy of 24 hours.

How can we prevent the spread of COVID-19?
During respiratory illness season, we always recommend that everyone:
- Wash your hands often with soap and water (or with alcohol-based hand rub, if soap is not available)
- Avoid touching your eyes, nose and mouth
- Cover your coughs and sneezes with a tissue or sleeve
- Stay home if you are sick
- Practice physical distancing by avoiding unnecessary close interaction with others (e.g.

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- Cover your coughs and sneezes with a tissue or sleeve
- Stay home if you are sick
- Practice physical distancing by avoiding unnecessary close interaction with others (e.g. shaking hands, or sharing personal items)
- Clean and disinfect high touch surfaces regularly

Should staff who come in contact with the public wear masks?

Masks are not effective in protecting you or others from COVID-19 (or similar 'droplet' viruses).

With Droplet Viruses, masks work from the inside out. They are used on people with symptoms

Public Education Effort

Personal Protective Equipment

The Ministry of Health (May 2, 2020) states:

- In most situations, workers don't need to wear personal protective equipment to protect themselves against COVID-19. The pandemic doesn't change existing requirements that may apply to certain workplaces or professions.

- Face coverings are strongly recommended for both employees and customers when physical distancing is difficult to maintain

- If work involves direct contact with individuals positive or suspected to be infected with COVID-19, or direct contact with contaminated objects or environments, appropriate personal protective equipment must be used. This requires gloves, gown, surgical / procedure mask, and face shield or goggles. For protection against COVID-19, N95 respirators are only required for aerosol generating medical procedures and when otherwise determined by a regulated health professional.

Information Effort

- Many public services are managed by municipal organizations. These services were derailed by Covid.

- In this context, municipalities depended on their web sites and social media accounts to explain alternative means for completing the tasks typical of the municipality–resident relationship.

- Municipalities also enacted their own by-laws, in alignment with provincial rules.

Information Effort

- The pandemic significantly increased bureaucratic oversight of people's everyday lives, all the way down to the most mundane activities.

- This prompted some municipalities to create Frequently Asked Questions (FAQ) listings on topics citizens likely never before needed to ask, such as "Can I still go for a walk with my family?" (City of Niagara Falls)

Citizen Engagement
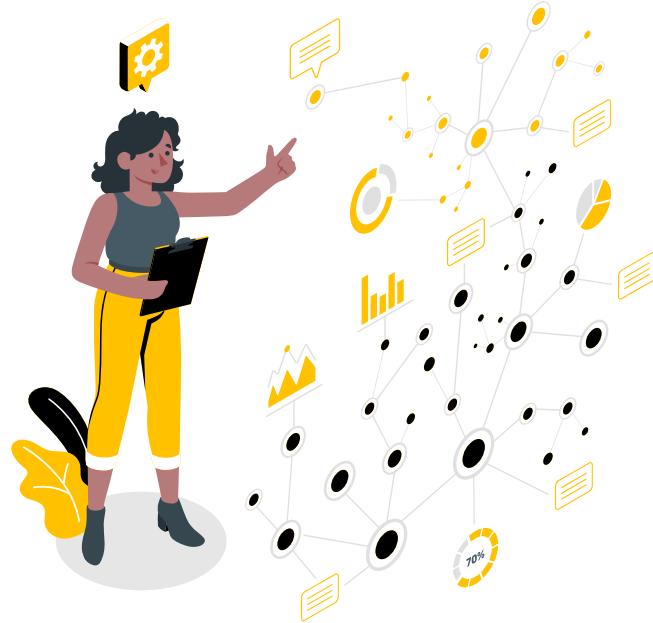
- Digital media run by governments and health officials were important channels for keeping people engaged during the pandemic.

- Public Education + Information is not enough — required engaged citizenry

- Municipalities in this study *tried* to different degrees to engage their citizens with their efforts to mitigate the impact of the pandemic

Citizen Engagement

- Some leaned into social media (#StayHomeNOTL , #MaskUpNOTL), others launched feedback portals (Niagara, Lincoln), launched newsletters edited by the township (Fort Erie).

- Others ignored these efforts completely.

Challenges

(we need

your help 🙏)

05

Challenge #1 'Confirming' findings?

[COULD WE ADD THE SENTIMENT SCORE SOLELY FOR JUNKIN'S POSTS?]

needle and a cartoonish image of the virus **[COULD WE PROVE THIS ON A LARGER SCALE BY SHOWING HOW MANY PAGES LINK TO NIAGARA REGION PAGES IN 2020 VERSUS 2021?]**.

Challenge #2 Are we cherry picking?

Toronto Star ✔ @TorontoStar

May 18, 2021
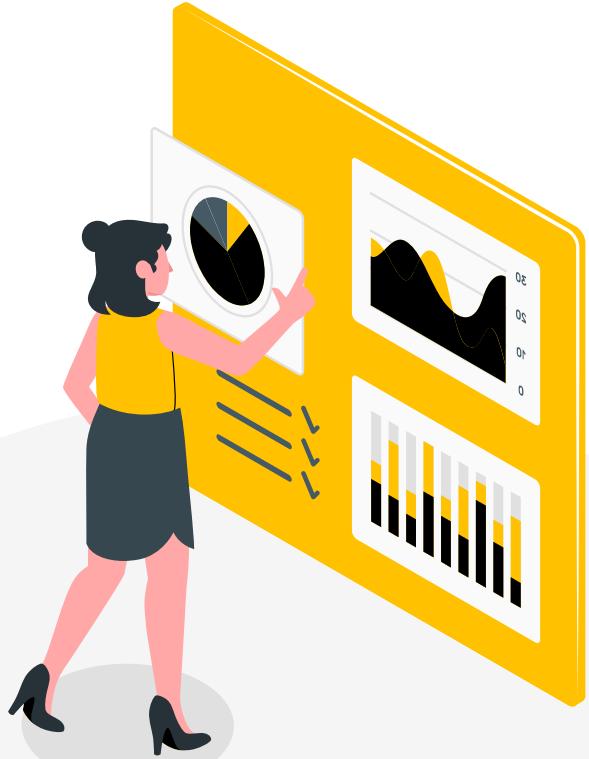
Ontario mayor known for COVID-19 disinformation asked a woman online if her vaccine changed her menstruation

West Lincoln Mayor Dave Bylsma — who has suggested international images of body bags and hazmat suits were part of a ploy to instill fear and has been charged for
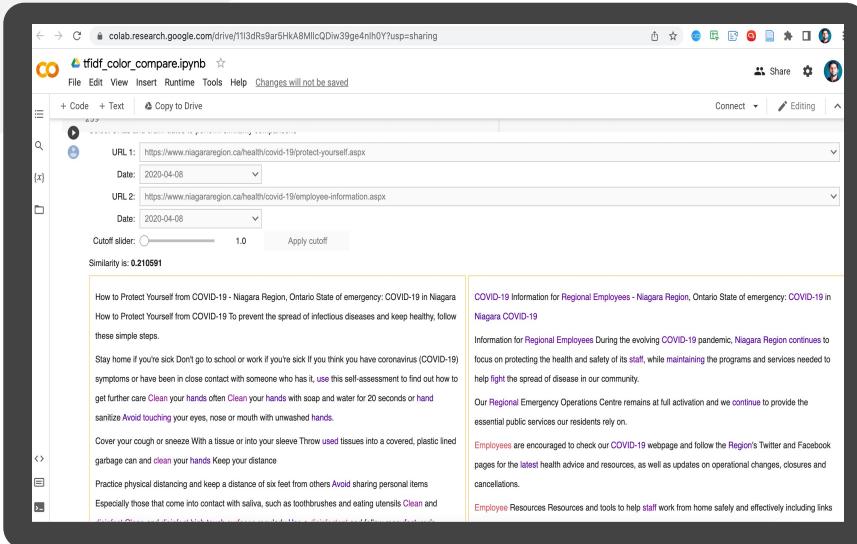
Challenge #3 Agreeing on a method

Year 2

06

Interactive Notebooks?

- There's an identified bottle-neck in web archive use and adoption
- Interactive notebooks have been identified as an informal best practice for teaching about/using/analyzing web archives
- Working towards best practices in developing learning notebooks for students with limited programming knowledge

Interactive Notebooks?

So, if
- You have taught undergraduates about/used web archived in your classroom
- You have used interactive notebooks (either Jupyter hub or something like Google Colab) in the classroom

We'd like to include you in our first phase (pending REB). Simply let Cal know (or email cmurgu@brocku.ca).

Thanks

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, infographics & images by **Freepik** and illustrations by **Stories**