# *How Ottawa Public Health (OPH) Responded to the COVID-19 Pandemic: A Review*

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Public Health Consultant

August 12, 2022

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Dr. Vera Etches,
Medical Officer of Health,
Ottawa Public Health,
100 Constellation Drive,
Ottawa, ON K2G 6J8

Dear Dr. Etches,

Please find attached my Review of Ottawa Public Health's Response to the COVID-19 Pandemic.

These findings reflect 3 months of research, review of over 400 documents and 22 interviews with more than 25 staff and community members.

I hope that the conclusions and recommendations will be useful to yourself, Ottawa Public Health and the Ottawa Board of Health in preparing, not only for similar future events, but also as the COVID-19 pandemic evolves in the fall of 2022.

Thank you for the opportunity to carry out this work.
Yours sincerely,

Paul R Gully, MB ChB FRCPC

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# Introduction to the Review

## Objectives

The agreed upon objectives of the review were to examine 1) the goals of the response of Ottawa Public Health (OPH) to the COVID-19 pandemic; 2) the response itself; 3) whether the response was based on evidence; 4) how the response was received, understood and acted upon by stakeholders; and 5) to make recommendations regarding preparedness for future events of public health significance.

## Method of Work

The consultant communicated by email and met weekly (virtually) with an OPH support team. The OPH website and more than 400 documents on a limited access OPH SharePoint site were reviewed. The documents comprised emails, reports, minutes of meetings and presentations. Twenty two virtual interviews were arranged by the team at the request of the consultant, with more than 25 staff and community stakeholders. The interviewees were asked if they agreed to notes being taken by a staff member and the consultant before the start of an interview. It was agreed that the consultant would not attribute comments to any individual in the final report. The consultant presented a verbal update on progress to Dr Etches and made a presentation to the Board of Health on June 20, 2022. The final report was submitted on August 12, 2022.

For the purposes of the review, the consultant developed a model framework for a public health response to an emergency.

### The report.

After a background section on OPH and a very brief description of the epidemiology of the pandemic, the report analyses the OPH response to the pandemic under the following headings: preparation, organization, surveillance and risk assessment, public health policies and actions, and communications. Human resources issues are then examined, followed by conclusions and recommendations. Where reports and information are publicly available, links are contained in footnotes.

This report summarizes the consultant's interpretation and analysis of the data and information that was provided and does not necessarily reflect the views of OPH and its staff.

## Acknowledgements

The consultant wishes to acknowledge the great support of staff of OPH in carrying out this review. The time given by staff and stakeholders in interviews is also very much appreciated.

## Ottawa Public Health – background

Ottawa Public Health (OPH) serves the City of Ottawa which has a culturally and ethnically diverse population of approximately 1M people. In 2016 26% of Ottawa residents identified themselves as a visible minority, Black, Chinese and Arab being the most frequently reported, and 2.5% identified as Indigenous (e.g., First Nations, Métis, Inuit) which is considered an underestimate. Almost all Ottawa residents are able to speak one or both official languages: English only (59%), French only (1%), English and French (38%). Ten per cent of Ottawa residents live in rural areas [1].

Ottawa can be looked at by neighbourhoods which are characterized by quintiles of income[2] [3].

OPH is guided by the 2019 -2022 Strategy[4] and is committed to Reconciliation [5], Quality, Engage[ment], and Impact. The mission of OPH is to *work together with our community to improve, promote, and protect the health and well-being of the people of Ottawa*.

The OPH core functions [6] are:

- Assessment and Surveillance;
- Health Promotion and Policy Development;
- Health Protection;

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[1] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/resources/Documents/stateofhealth_2018_en.pdf
[2] The income quintile group provides a rough ranking of the economic situation of a person based on his or her relative position in the economic families adjusted after-tax income distribution. The population in private households is sorted according to its adjusted after-tax family income and then divided into 5 equal groups each containing 20% of the population.
[3] https://www.neighbourhoodstudy.ca/variablesdefinitions/
[4] https://www.ottawapublichealth.ca/en/strategy-new.aspx
[5] https://documents.ottawa.ca/sites/documents/files/rec_actionplan_en.pdf
[6] https://www.ottawapublichealth.ca/en/resources/Strategic-Plan-Report_Final.pdf

- Disease Prevention; and
- Emergency Management.

At the onset of the COVID-19 pandemic in January 2020, the organization of health care and public health was in flux, i.e., the move from Local Health Integration Networks (LHINS) to Ontario Health Teams, proposals for Public Health Modernization (Nov 2019)[7], and changes to funding formula[8]. Although the circumstances may not have had a direct bearing on the pandemic response, these changes will be important for future emergency scenario planning.

## The COVID-19 pandemic in Ottawa

As of June 30, 2022, there had been 75,298 cumulative cases and 824 recorded deaths from COVID-19 in Ottawa [9]. A current analysis of the situation as of June 30, 2022 is presented in a "Snapshot" on YouTube [10]. In total, as of June 30, 2022, Ottawa's vaccine coverage was 89% for 2 doses in ages 5years+, and 64% for 3 doses in ages 12years+ [11].

The evolution of the pandemic continues to be characterized by waves and troughs of rates of infection, influenced by changes in the virus and arrival of new variants of concern. These changes require continuous re-assessment of the response and the need to strike a balance between optimistic and pessimistic projections and between the preservation of the mental and

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[7] https://health.gov.on.ca/en/pro/programs/phehs_consultations/docs/dp_public_health_modernization.pdf
[8] As of 2020, public health funding is split 70% provincial and 30% municipal. The key difference between this and the former funding split of 75/25, is that the new cost-sharing covers all programs. Previously there was 100% provincial funding for some programs such as oral health, with cost-sharing only for mandatory Ontario Public Health Standards' programs. https://www.amo.on.ca/advocacy/health-human-services/public-health-during-covid-19-and-beyond - :~:text=As of 2020, public health,new cost-sharing covers everything.
[9] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/covid19-dashboard.aspx
[10] https://youtu.be/hTM3u-710BA
[11] https://open.ottawa.ca/datasets/ottawa::covid-19-vaccine-cumulative-coverage-for-ottawa-residents/about

economic health of the community while reducing, as far as possible, risk of infection. This puts continual stress on the leadership, management, staff, and programs of OPH.

## Model of a Public Health Response in an Emergency.

In the absence of an established accepted systematic process for evaluating the response to a prolonged emergency such as a pandemic[12], the consultant found it useful to develop the following essential elements of a model response as a framework for this review:

- Planning and preparation for an emergency with pre-existing plans to respond to long term threats to the health of the public;
- Organization of an emergency response to ensure the
    - Collection, analysis and interpretation of timely, reliable and accurate data (surveillance and assessment) to inform
    - Public health policies and health actions;
    - Communication of policies and actions in a way that is understood and responded to by individuals and communities at risk, and decision makers; and
    - Continuous evaluation and modification of polices, actions and communications, as necessary.

[12] The WHO Guidance for After Action Review (AAR) was used for reference https://www.who.int/fr/publications-detail/WHO-WHE-CPI-2019.4

## Preparation for an Emergency

OPH used existing plans to manage the response to the COVID-19 pandemic: the OPH Emergency Plan[13] (internal document) and the Ottawa Interagency Influenza Pandemic Plan (OIPP) (internal document)[14]. These substantive plans will have to be revised in the future to prepare for long-term public health emergencies caused, e.g. by diseases other than influenza, and climate change related events  Public health plans and responses should be complimented by health-care system preparation and responses (see Recommendation 1).

OPH was also guided by an Ethical Framework published in April 4, 2020. Ethical principles were used as a guide for developing and modifying the pandemic response[15].

The pandemic influenza plan was useful in managing the initial response, but that response had to be adapted to take account of the rapidly evolving understanding of the epidemiology of COVID-19. In contrast to pandemic influenza A, no vaccines or specific treatments were available in the first year. Important information on the disease COVID-19[16], caused by the virus SARS-CoV-2, was not yet available in early January 2020, e.g., modes of transmission (person to person, droplet and/ or aerosol spread), infectivity and virulence. Also, in contrast to the previous coronavirus, SARS-CoV-1 outbreaks in 2003, it became apparent that community transmission

[13] Emergency Plan: Strategic objectives - Protect the health and safety of responders, Save lives, Reduce suffering, Protect the health of the public: assess the threat to health of Ottawa residents, determine the needs of the affected, or potentially affected, population, ensure implementation of measures to protect the health of Ottawa residents, reduce impacts to property and to the environment

[14] Ottawa Interagency Influenza Pandemic Plan (OIIPP): Purpose: To guide decision-making and clearly outline roles and responsibilities during an influenza related response. Scope: The OIIPP uses preparedness, surveillance, guided decision-making, and transparency to 1.Prevent infection, serious illness and death due to influenza 2.Support efforts related to demands exceeding capacity of the health care system through surveillance 3.Minimize societal disruption4.Ensure prompt recovery.

[15] https://www.santepubliqueottawa.ca/fr/professionals-and-partners/resources/Documents/Ethical-Framework-for-Pandemic-Response-April-24-2020-.pdf

[16] Named by WHO in early February 2020

was important, asymptomatic spread significant and morbidity and mortality high, especially in older people. The likely extended length of the pandemic only became clearer by mid 2020.

## Organization of the Pandemic Emergency Response

The OPH Incident Management Structure (IMS)[17] was set up according to the Emergency Plan two months before the first community acquired case was reported on March 22, 2020. The timing was based on a risk assessment by the Public Health Medicine Unit (PHMU) and the OPH Senior Leadership Team agreeing that the event had the potential to require more effort.

Preparations for the first cases of community acquired COVID-19 infection included sharing information with stakeholders and weekly teleconferences with health care providers. Coordination with the health care sector was maintained through "Three Chairs Meetings" of OPH, the City of Ottawa EOC and the Champlain Health Authority. The Clinical Care Coordination Centre (C4) (later the Champlain Health Region Incident Command (CHRIC)) made up of health care institutions, was responsible for organizing clinical assessment and testing as well as other functions.

In September 2020, recognizing the need for a sustainable longer term way of working, the OPH response was reorganized, but continued to use incident action plans within the OPH organizational structure, i.e., COVID-ops within the normal structure, a "temporary long-term"

[17] Under the OIIP and the City of Ottawa Municipal Emergency Plan the IMS operated at the enhanced situation level for 245 days from January 21, 2020. The OPH IMS was again in operation at the enhanced level for 137 days from December 18, 2021. Until September 2020, the response was led by OPH as it was based primarily on disease control. The City of Ottawa declared a state of emergency on March 25, 2020 which lasted for 484 days and was then on an activated/ enhanced status until March 11, 2022. There were intervening emergencies, e.g., spring freshet monitoring for 26 days, in April / May 2021. The City Emergency Operations Centre (EOC) Control Group (CG) included all City managers and the MOH. OPH provided situational awareness and population health risk assessments to the EOC.

solution. The core public health functions were distributed more evenly across the various teams within OPH. These functions included not only COVID related health promotion and health protection, but also community operations, communications, logistics, finance, planning, surveillance and the Public Health Medicine Unit (PHMU). Further to this, also in September 2020, OPH recognized the importance of enhancing community engagement by the creation of a new function to ensure closer alignment of the response with the needs of the community.

## Surveillance[18] and Risk Assessment

Surveillance and the assessment of risk, for example, risk of transmission of disease and associated morbidity and mortality, are vital to evaluating and, if necessary, modifying public health policy and public health action. The main programs in OPH responsible for these activities are the Epidemiology Team and the Public Health Medicine Unit (PHMU).

OPH ensured good quality continuous surveillance and risk assessment during the pandemic, although it would have been beneficial to have had access to Provincial risk assessments much sooner.

OPH initiated collection of socio-demographic data (SDD) from cases in May 2020, generating learnings useful for ongoing data collection. While real-time usefulness of SD information from cases was reduced as a result of a limited response to questions, the data that were collected and analyzed were valued and confirmed ongoing case management outreach and later, immunization outreach, strategies.

### Epidemiology Team

At the outset, the response required by the pandemic was stressful for the Epidemiology Team with staff working "around the clock" to ensure that data and analyses were available each day at 10:00hrs. The team of epidemiologists and data analysts doubled in size. It was reported that the human resources team was very supportive in the hiring process. The Epidemiology ("Epi") team

[18] In 1963 Langmuir defined disease surveillance as "continued watchfulness over the distribution and trends of incidence of diseases by (1) systematic collection of important data, (2) consolidation and interpretation of the data, and (3) dissemination of the results to healthcare professionals and public health policymakers, for appropriate actions". Langmuir AD. The surveillance of communicable diseases of national importance. N Engl J Med. 1963;268(4):182–192. https://pubmed.ncbi.nlm.nih.gov/13928666/

developed a “buddy” system, “shadowing” and detailed procedures to assist with orienting new staff. There was some initial discomfort in concentrating surveillance activities on COVID-19 at the expense of chronic diseases. Surveillance of other communicable diseases was also curtailed during the pandemic, but collection of data on deaths from substance use and ER visits for overdoses continued.

The team was adaptable and made use of new technologies and automation to help respond to the needs of OPH and the public.

### Dashboard and infographics

With the assistance of the City of Ottawa Information Technology (IT) team, a dashboard was developed which greatly improved access to information. Complex data such as that on clusters of cases and social networks were made more accessible with the development of infographics by the OPH communication team. In the presentation of data, comparisons with other jurisdictions were not straight forward due to differences and inconsistencies in case definitions amongst OPH, the Ontario Ministry of Health and Long-Term Care and Public Health Ontario (PHO).

All the data were “open” and publicly available, with standard caveats in relation to small numbers, i.e., stability of estimates and privacy concerns. Outbreak locale were identified and reportable under the Ontario *Health Protection and Promotion Act 1990* (HPPA)[19].

[19] https://www.ontario.ca/laws/statute/90h07

### Surveillance systems development

In November 2020, OPH had to move away from the existing Provincial surveillance system (iPHIS) in order to have a functional combined surveillance and case management system. OPH was well supported by the City IT team in building the COVID Ottawa Database (COD). The development of the combined system benefitted the coordination of OPH's case and outbreak management program.

The Province required uploading of data from the COD into iPHIS which had to be manual at first. When the Province developed an integrated surveillance and case-management system (CCM), and required its adoption by OPH, the COD and CCM ran in parallel, until March 2021. The Epi Team reported that the COD had better functionality, but eventually the CCM became comparable in terms of utility. Migration of Ottawa data to the CCM was a large undertaking requiring matching extracts and data across the two platforms. All these changes required significant resources.

### Socio-demographic and neighbourhood data

As noted above socio-demographic data (SDD) were collected on cases of COVID-19 beginning in May 2020, sooner than was mandated by the Province[20]. SDD were not always collected consistently, particularly through "surge" periods. Data were collected retroactively on two occasions (July 2020 and February 2021) to improve data quality.

[20] Including Official Language, Childhood Language, Born in Canada, Years in Canada, Indigenous (Y/N) Indigenous (specify: FN, I, M), First Nations (specify: Status/Non-status), Race, Disability, Household Income, Household Size.

Data were initially shared with communities and publication of race-based data required prior community approval. The Ottawa Local Immigration Partnership (OLIP) noted that such disaggregated data are indispensable.

Data were initially shared with and published in partnership with the community, in order to understand the underlying context of this information. While these data were specific to COVID-19, the inequities it revealed existed before the pandemic.

On March 11, 2021, there was a request from staff to the OPH Senior Leadership team (SLT) from the Epi Team to include SDD collection in OPH-led immunization clinics, as per data fields that were available in COVAX. This was implemented but required orientation of staff and despite best efforts, participation by vaccinees was limited.

The Ottawa Neighbourhood Study [21] provided invaluable information on distribution of COVID-19 infections and later, vaccine coverage. Immunization rates by neighbourhood were distributed to the Metrics and Monitoring group of the Ottawa Health Team-Équipe Santé Ottawa (OHT-ESO) COVID Community Response group.

OPH was the first jurisdiction to release data on “smaller geographies”, wards followed by neighbourhoods. Data were initially shared with communities and publication of race-based data required prior community approval. The Ottawa Local Immigration Partnership (OLIP) noted that such disaggregated data are indispensable.

[21] https://www.neighbourhoodstudy.ca/

There was great utility for case management and vaccine strategies in having neighbourhood data identifying specific groups at risk of infection and differences in uptake of vaccine. Analyses contributed to special reports on the disease, e.g., neighbourhoods, acquisition exposure (see below [22]), schools (see below), and immunization uptake [23].

February 2021 Special Focus: COVID-19 in Schools:
Key messages included:
Evidence of limited transmission of COVID-19 within schools, which peaked in early October and then declined.
Infection rates in schools are similar to that in the community.
Most cases in school attendees (85%) got their infection outside of school.
Almost half of school outbreaks began with a student or staff member who was a household contact of a confirmed case.

Acquisition Exposures Report Oct 2020:

> *Locally identified risk factors align with what the World Health Organization has identified as the "three Cs" where COVID-19 spreads more easily. OPH continues to work on communication strategies to help in this regard, including, but not limited to building on the new One Million Reasons Campaign.*

Later, OPH reduced the scope of SDD collected on persons with COVID-19 infection and vaccine recipients to align with the Ontario systems, i.e., CCM [24] and COVAX[25]. This was to lessen the workload on staff, but it was agreed that there should be advocacy for more comprehensive SDD collection across the Province[26] (see Recommendation 2).

[22] https://www.youtube.com/watch?v=pz2m4NXQ1YQ
[23] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/supplemental-reports.aspx
[24] Official Language, Childhood Language, Race, Household Income, Household Size
[25] Official Language, Childhood Language, Race, Ethnicity, Household Size, Income
[26] This was the subject of discussion at the June 20, 2022 Board of Health (BoH) meeting in relation to the City Anti-racism Strategy.

OPH accessed results of pandemic modelling from University of Ottawa researchers, who used open data from OPH.

## Research

There were requests for data submitted to OPH from researchers. OPH is not a research institution, although it will be important to be able to collaborate with academia when the results of research have a direct utility in evaluating, assessing or adapting a public health response (see Recommendation 3).

## Public Health Medicine Unit [27]

The OPH PHMU contributed risk assessments which were fundamental to continually assessing the evolution of the pandemic. At the outset, a lead associate medical officer of health (AMOH) reviewed information from multiple informal sources of information in advance of the availability of traditional sources, such as the Ontario Ministry of Health and Long-Term Care and the Public Health Agency of Canada (PHAC). Ontario and federal risk assessments were considered to be too conservative and case-definitions too limited. The PHMU risk assessments were fully supported by the MOH and projections were used in public statements[28].

During the pandemic, Public Health and Preventive Medicine Residents and medical students were an invaluable asset to the PHMU, but a core risk assessment function needs to be assured at all times and, if necessary, delegated to more than one AMOH (see Recommendation 10).

[27] The PHMU was actively involved in all aspects of the COVID response: surveillance and risk assessment, case management, infection prevention and control and outbreak response, immunization, and guidance, e.g., to businesses, schools and child-care, sports and recreation organizations, and places of worship (See Recommendation 10).
[28] For example the March 15, 2020 Special Statement by the MOH.

Province of Ontario (ON) committees (tables), including one on Public Health, were not able to share findings and risk assessments until they were later made public by the Chief Medical Officer of Health (CMOH). OPH should request that, in future, provincial risk assessments and intelligence be available to health authorities sooner to enable timely local decision making (see Recommendation 4).

Surveillance of the SARS-CoV2 virus in wastewater has been shown to be a useful indicator of community transmission of infection. Thanks to innovative research at CHEO and the University of Ottawa, and with the collaboration of the City and the PHMU, Ottawa was one of the first communities in North America to take the step of conducting daily wastewater analysis for SARS-CoV-2. Detailed waste-water surveillance reports commenced in June 2020. OPH might consider examining wastewater surveillance using the Ethical Framework[29].

[29] https://www.santepubliqueottawa.ca/fr/professionals-and-partners/resources/Documents/Ethical-Framework-for-Pandemic-Response-April-24-2020-.pdf

# Public Health Policies - Declarations, Orders, and Directives

## Interpretation of Policies

Changes in public health policies from the Province were fast and frequent and required the 6 person quality assurance (QA) team to work 12 hour days to interpret and clarify declarations, orders and directives. The team assisted in putting polices into practice, responding to questions of clarification, enforcement, evaluation, adaptation and communications, and ensured the OPH website was up to date. The following are examples of issues requiring guidance:

- Case and contact management
- Procedures in Schools
- COVID-19 in pregnancy
- Definitions of an older adult (differences amongst other health units and OPH)

The team worked closely with and appreciated the support of Ottawa By-law & Regulatory Services.

These quality assurance activities were important as individuals, organizations and businesses were the subject of multiple declarations, orders and letters of instruction from the Province and, on occasions, from the Ottawa MOH, under the *Health Protection and Promotion Act, 1990* (HPPA) [30] [31], the *Emergency Management and Civil Protection Act* [32], The *Reopening of Ontario (A flexible response to COVID-19) Act 2020* [33] [34], directives from Ontario Minister of Health and Ontario Chief Medical Officer of Health, and City of Ottawa By-Laws.

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[30] https://www.ontario.ca/laws/statute/90h07

[31] Letters of instruction under the Emergency and Civil Protection Act are not appealable to the Health Services Appeal Board (changed later).

[32] https://www.ontario.ca/laws/statute/90e09

[33] https://www.ontario.ca/laws/statute/20r17

[34] https://www.ottawapublichealth.ca/en/public-health-topics/previous-statements.aspx - November-17-2020--Special-statement-from-Dr-Vera-Etches

This process continued the quality assurance and quality improvement function already in place in OPH. The team was replaced by regular guidance decision meetings in April 2021.

# Public Health Actions

## Disease Prevention

The MOH continuously assessed risks to the people of Ottawa from COVID-19 and took appropriate steps where necessary to strengthen Provincial requirements. This is evidenced by the following examples which provide some limited context and background to the significant efforts undertaken to control the spread of COVID-19 in the community.

### Masks

On July 6, 2020, a joint statement (archived) was issued by the three adjoining health units on mask requirements. Each public health unit invoked an order under the Province's *Emergency Management and Civil Protection Act* requiring individuals to wear a mask in certain enclosed public spaces. In Ottawa, this was followed up by a City of Ottawa By-law with the support and agreement of local decision makers, and, on January 5, 2021, a Section 22 Class Order required masking for those using outdoor recreational facilities [35] [36].

### Isolation

On September 22, 2020, an OPH order under HPPA was issued on isolation of people who tested positive or close contacts[37]

[35] OPH issued orders, but they were enforced by City of Ottawa By-law officers.
[36] https://www.ottawapublichealth.ca/en/public-health-topics/special-statements-from-2021.aspx - January-5-2021--Special-statement-from-Dr-Vera-Etches
[37] https://www.ottawapublichealth.ca/en/public-health-topics/previous-statements.aspx - September-22-2020--Special-statement-from-Dr-Vera-Etches

### Stay at Home Order

On April 9, 2021, a Letter of Instruction [38]was issued for businesses and organizations additional to the Provincial Stay at Home Order[39]. This was to ensure that businesses that were permitted to remain open take additional measures to reduce the spread of COVID-19.

### Fitness facilities

From late April 2021 through mid-July 2021 indoor sports and recreational facilities subject to restrictions under provincial regulations were also subject to HPPA Section 22 class orders. Three fitness facilities were also required to be closed under the terms of individual HPPA Section 22 orders and an Order of the Superior Court of Justice was obtained to enforce one of these orders. This was supported by City of Ottawa legal services and City By-Law officers. In addition, the Ministry of the Attorney General obtained a similar order of the Ontario Superior Court of Justice under the authority of the *Reopening Ontario (A Flexible Response to COVID-19) Act, 2020* that was directed to one of the operators who was subject to an individual Section 22 Order.

### Workplace health

On April 21, 2021, the MOH reported that a letter had been sent to the Premier requesting an urgent review of all businesses and services that continue to have workers at the workplace, to amend the language in Ontario Regulation 82/20 regarding school closure for greater clarity and

[38] https://www.ottawapublichealth.ca/en/public-health-topics/special-statements-from-2021.aspx - April-09-2021--Special-statement-from-Dr-Vera-Etches
[39] https://news.ontario.ca/en/release/61192/ontario-strengthens-enforcement-of-stay-at-home-order

to improve the enforcement provisions under the *Reopening of Ontario…Act* and *Emergency Management and Civil Protection Act* [40].

## Testing, Assessment, and Case and Outbreak Management

### Testing and assessment

The Interagency Influenza Pandemic Plan included an agreement that the six independent Community Health Centres in Ottawa would take responsibility for the clinical assessment of possible COVID-19 cases. It became clear very early that it was only possible logistically for CHCs to serve their own clients. The Ontario Health East Region hospital sector expeditiously took over responsibility for the organization of testing centres, and clinical assessment.

Initially, testing availability could not keep up with demand and results were delayed for up to 10 days. If necessary, people were sent to an emergency room for testing. OPH managed criticism about testing availability and worked with local hospital partners on communications about testing. This led to development of a Testing Task Force, which included hospital laboratories.

Testing capacity was built up across multiple sites operated by hospital partners. Active coordination with the Task Force occurred to enable testing in outbreak situations in congregate settings and schools. Pilots of offering testing for asymptomatic students at times of higher COVID-19 prevalence were also conducted. OPH's school team and community engagement team joined the hospital testing staff to assist with coordination and communication with families, and groups disproportionally affected by COVID-19.

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[40] https://www.ottawapublichealth.ca/en/public-health-topics/special-statements-from-2021.aspx - April-21-2021--Special-statement-from-Dr-Vera-Etches

Individuals received instructions on positive test results, but these varied by where the test was administered. There were also issues with PHAC handing off responsibility for travellers who tested positive, when OPH was not given relevant information (see Recommendation 5).

Later in 2021, OPH did enact policies for increasing availability of testing, including providing take-home PCR test kits for students and staff in schools. Ottawa was the first municipality in Ontario to do this and, in December 2021, OPH took steps to use COVID-19 rapid antigen tests (RAT) in outbreaks.

### Case management

Case and outbreak management was an enormous task which staff confronted and managed successfully.

It was reported that the Province had established performance targets for case and contact management of COVID-19 whereby local public health units were expected to reach 90% of all persons diagnosed with the virus and their contacts, within 24 hours of the health unit being notified of a positive test result. OPH was able to reach this target, except during surges when the number dropped well below 90% and there were significant backlogs.

There was pressure on case-management staff as a result of changing Provincial policies. This was not made easier by differences of policies amongst health units. Compliance with requirements for isolation was reported to be good, but there was a level of frustration as a result of confusion as to conditions. It was reported that a centralized “government” workforce to handle

testing and to provide advice, was put in place in October 2020, with teams dedicated to Ottawa, which improved the situation.

OPH was able to support service organizations when community partners needed advice on dealing with individual situations, e.g., isolation of persons who were without housing or in congregate settings. Reports of outbreaks in LTCHs were timely and were directed to the Infection Prevention and Control (IPAC) team through the case-management team.

### Staffing

Case and outbreak management staffing increased from 6-8 case managers to a complement of 450 including deployments and casuals. The contribution of nurse practitioners from the sexual health program was valuable. Scheduling challenges improved with the adoption of IT solutions while the case and outbreak management workload had to be continually assessed, i.e., surge planning.

Initially, OPH had to negotiate support from the City for a large increase in staff, e.g., for contact tracing, as the request was unprecedented. Contact tracing was scaled back in fall 2020 due to the work load and from then, OPH concentrated on high risk contacts.

Staff were supported through a forum where they could ask questions and supervisors could share feedback. Initially, there were daily briefings and staff were afforded many opportunities to ask questions. A leadership development program was in place before the pandemic, but there was still insufficient supervisory capacity.

### School Support Team

In order to assist schools in case and outbreak management, a COVID School Support Team (CSST) was set up. Even so, the start of the 2020/ 21 school year was described as hectic. The CSST assessed if there were outbreaks.

### Digitalization

As noted above, the COVID-19 surveillance and case management electronic system was developed “in house” with the assistance City of Ottawa IT staff . COVID-19 still remains the only disease managed by an electronic system. The paper-based system in SharePoint in use for other diseases should be upgraded (see Recommendation 6).

## Health Protection and Infection Prevention and Control (IPAC)

### Health Protection

Health protection services were markedly decreased as the majority of staff were deployed to assist in IPAC.

Inspection of high risk settings and response to complaints were maintained, as far as possible, i.e., essential operations, including supporting enforcement operations of the City. The December 2020 Provincial Inspection Campaign (internal document) showed that more than 50% of restaurants had contraventions; higher than for the retail and personal service sectors. For retail, 33% of issues related to screening and 29% to safety plans. For restaurants, 49% of contraventions related to safety plans and 23% to screening requirements. As a result, plans were implemented to focus on communications, work with sector representatives, “how to” webinars, and prioritization of business resumption. Community education focussed on indoor food security

programs and services, including reviewing strategies for adapting indoor spaces and program models for safer operations.

Changes in modes of operation of food services, e.g., to delivery and pick up, and reduced food service staff, as occurred during the pandemic, should be assessed to detect any increased risks to food safety. Health protection staff have local business specific knowledge to enable this. Public Health Ontario will be able to detect trends in food-borne disease in the Province that might indicate specific issues (see Recommendation 7).

### IPAC

The demand for IPAC services increased dramatically, to respond to unmet need in congregate settings, beyond the mandate of the health unit. Expectations for IPAC support of congregate settings have increased during the pandemic and are unlikely to return to pre-pandemic levels (see Recommendation 8).

The IPAC program, which in 2020, comprised Public health Inspectors (PHIs) and Public Health Nurses (PHNs) and staff, increased from 21 to 200 in the space of 2 months. As a result, orientation of new personnel was a continual need and had to be carried out by the original staff complement. As for most other OPH programs, the pressure of work required extended hours of work, 7 days a week. IPAC phoneline and courier teams were also expanded to meet the demand to support facilities experiencing outbreaks and to enhance access to timely testing.

The number of congregate settings that had to be served increased greatly. IPAC had always served the 28 Long-term Care Homes (LTCHs) and 84 retirement homes (RHs), as well as the emergency shelter. There was significant service expansion across congregate settings, including residential service homes, residences for people with developmental disabilities, childcare

facilities and schools. This required the development of new relationships and collaboration with multiple stakeholders. In particular, institutions without a physician or other clinical support needed more assistance in maintaining infection control and managing cases. OPH IPAC was required to fulfill a role outside its mandate which demanded collaboration with multiple authorities including the Ministry of Health and Long-Term Care, the Retirement Homes Regulatory Authority, Ontario Home and Community Care, the Child Care Licensing System of the Ministry of Education, the Ministry of the Solicitor General, and the Ministry of Children, Community and Social Services. The IPAC team brought the attention of appropriate agencies to facilities with outbreaks that needed support.

A report to the Board of Health (BoH)[41], submitted on Jan 28, 2021, noted the complexity in governance, accountability and oversight of Long-term Care Homes, which created problems in mobilizing emergency response efforts during outbreaks:

> *Throughout the pandemic, LTCHs experienced unprecedented staffing shortages, which presented challenges in providing consistent care and support for residents and maintaining IPAC practices.*

LTCHs that successfully managed outbreaks shared key factors critical to their success in relation to IPAC. OPH put forward four (4) recommendations aimed at strengthening the prevention and management of infectious disease outbreaks in Ontario, including the requirement that each LTCH hire, train and retain at least 1 in-house IPAC expert.

IPAC policies for case and outbreak management disease, e.g., the need to report a case of COVID-19 infection in a health care worker to an employer, or management of an outbreak in a school have been guided by ethical principles.

[41] https://pub-ottawa.escribemeetings.com/Meeting.aspx?Id=ac7bc5a1-0e16-435e-4e41-daa6dbd014ea&Agenda=PostMinutes&lang=English

The provision of personal protective equipment (PPE) for OPH staff was managed together with the City. OPH gave advice on use of PPE for individuals and businesses, community health care providers and community services[42] [43].

## Immunization

The COVID-19 immunization program was well run with close collaboration between OPH and the City of Ottawa, as well as area hospitals, Ontario Health East and other health care organizations, including primary care providers and pharmacies. Multiple modalities were used to ensure those most at risk of infection had priority access to vaccines.

The Ottawa approach continued to focus on neighbourhoods and communities with less advantage and higher rates of COVID-19. OPH gave priority communities a voice and championed ethical vaccine distribution plans, which were integral to the operations of the Vaccine Sequencing Task Force (VSTF).

From late 2021, COVID immunization rates were available by neighbourhood through a partnership between OPH and the Ottawa Neighbourhood Study[44] [45]. The Study shows that, as of June 30 2022, 64% of the population of Ottawa over the age of 12 years had received at least 3 doses of a COVID-19 vaccine, but coverage varies by neighbourhood income quintiles, with greater coverage in some higher income quintile parts of the City.

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[42] https://www.ottawapublichealth.ca/en/public-health-topics/masks.aspx
[43] https://www.ottawapublichealth.ca/en/professionals-and-partners/long-term-care-homes-and-retirement-homes.aspx
[44] https://www.neighbourhoodstudy.ca/covid-19-vaccination-coverage-in-ottawa-neighbourhoods/
[45] https://www.neighbourhoodstudy.ca/

Consideration will have to be given as to how to increase coverage of initial courses and boosters in planning for a possible resurgence of infections in the fall of 2022 (see Recommendation 9).

### Immunization plans and program implementation

The immunization program was implemented using the City of Ottawa's COVID-19 Vaccination Program Plan (internal document), with the OPH COVID-19 Mass Immunization Clinic Plan (internal document) and a Vaccine Assistance Service Level Agreement between OPH and City (internal document). The City IMS team, made up of City and OPH staff, led the program with strategy informed by the MOH. The City was responsible for logistics.

The Vaccine Sequence Strategy Task Force (VSTF) was in operation from January 19 to the end of May 2021 and very ably advised on the immunization program. The VSTF included *members from groups highly affected by COVID, such as newcomers, Indigenous, Black, older adult, and health care workers (*was*) established to advise the City's Emergency Operations Centre on how to implement the sequence of vaccines given local context including maximizing uptake among groups sequenced ahead of others* [46]*.* The group resolved questions of equity that were raised about prioritizing certain postal codes for immunization.

OPH is normally only directly involved with immunization in schools and annual influenza immunization programs in the community. As a consequence of the COVID-19 vaccine program implementation, staffing of the immunization program rose from 50 to 3000 (full-time and casual) at peak. The initial orientation of new staff was basic but was able to be broadened when time permitted to ensure inclusion of vital issues such as cultural safety and trauma informed care.

[46] https://www.ottawapublichealth.ca/en/resources/Corona/COVID-19_Vaccine_Sequencing_EN.pdf

### Vaccine priorities

For the first 3 months, immunization was hospital based. OPH worked alongside The Ottawa Hospital and the City, and the MOH lobbied for, equity across the health care sector so that, for example, LTCHs and retirement homes were included, and for access for highest risk community members and people over 80, as there was no established Provincial framework for prioritization. At the beginning of 2021, there was a recommendation that immigrant and racialized populations should be considered a high risk population and prioritized, using the rate of COVID-19 infections by neighbourhood as a guide. The COVID-19 and Racial Identity in Ottawa report [47], which used SDD collected from Ottawa residents diagnosed with COVID-19, validated this approach.

The tension between reaching as many people as possible quickly and reaching people at highest risk for severe illness was managed through strategy meetings between the MOH and the General Manager of Emergency and Protective Services of the City. By April/ May 2021, sequencing was clearer and vaccine supplies had improved.

Plans were adapted and flexible and took into account community concerns, e.g., stigmatization. In her April 9, 2021 Special Statement on High-priority neighbourhoods, the MOH stated:

> *I have the authority to further focus on neighbourhoods, based on local considerations of who is at greatest risk of COVID-19. Therefore, we will continue to focus future pop-up clinics, walk-in options and mobile strategies in the high-priority neighbourhoods previously identified…This strategy helps to prevent hospitalizations and deaths when vaccine doses are still limited. We must continue to protect people over 60 across Ottawa, people over 55 through pharmacies and people over 50 in neighbourhood-based approaches, as the majority of people being hospitalized are still older adults. [T]he City and OPH are reviewing data for other neighbourhoods which may also be*

[47] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/resources/Documents/covid-19/Special-Focus/Report---COVID-19-and-Racial-Identity-in-Ottawa-2020.pdf

*disproportionally impacted by COVID-19 and considerations will be made for support to other communities as the vaccine rollout continues[48].*

As implementation progressed, there was accommodation for community clinics, roving clinics, joint clinics with primary care providers and outdoor clinics, as well as concurrent collection of socio-demographic data from recipients. A neighbourhood strategy rapid assessment tool (internal document) was developed. Special clinics were set up in partnership with the Indigenous community. Mobile clinics were arranged on request, e.g., for a workplace or faith group. Neighbourhood clinic *Hubs* were set up which were gradually accepted and trusted. There were many program iterations in order to find the best solutions, including attempts to employ culturally specific staff.

OPH offered vaccines to congregate care settings, e.g., shelters. This was through community service providers, including Ottawa Inner City Health, the Canadian Mental Health Association and Centretown Community Health Centre. On April 19, 2021[49], the BoH considered calls for prioritization of vaccine for front-line and essential workers.

Pop-up clinics did not work in some communities as residents preferred local clinics in established sites with known and trusted health workers. Selection of nurses for immunization clinics with specific language skills and training was noted positively by the community, supporting the development of a more diverse OPH workforce. Community development staff and community leaders and organizations, such as the Ottawa Local Immigrant Partnership (OLIP) were at clinics to assist. There was an immunization tool kit for employers with staff from under-served

[48] https://www.ottawapublichealth.ca/en/public-health-topics/special-statements-from-2021.aspx - April-09-2021--Special-statement-from-Dr-Vera-Etches
[49] https://pub-ottawa.escribemeetings.com/Meeting.aspx?Id=d5f997b2-2b00-62d7-83ed-6691c1154c17&Agenda=PostMinutes&lang=English

communities and an approach was developed ensuring awareness of ethno-cultural needs including for the Somalian and African, Afro-Caribbean and Black communities. It was reported that Eritrean and Ethiopian persons felt excluded as they do not identify as African and Hindu and Bengali communities needed language support that was not in place at the time within OPH.

Some of the barriers to immunization which residents and partner organizations have shared with Ottawa Public Health include: lack of time, lack of trust, unclear or mixed messages about vaccines and misinformation [50]**.** Feedback (internal document) was obtained from some vaccine clinic attendees. Vaccine hesitancy was notable in some priority groups and attempts were made to overcome this.

The pandemic has created expectations as well as increased trust. The 2SLGBTQ+ community felt barriers to immunization which were raised by AIDS Committee of Ottawa. Consequently, OPH arranged an immunization clinic at Bruyère Hospital to assist in providing a cultural safe space for the community.

### PHMU

A sole AMOH from the PHMU was responsible for the issuance of medical directives. There was a constant need for updating knowledge, e.g., with 6 vaccines, off-label use for boosters, information from product monographs, and advice from Ontario and the PHAC National Advisory Committee on Immunization. It is recommended below that this burden be shared by ensuring that there is another physician available with similar knowledge (see Recommendation 10).

[50] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/covid-19-vaccinations-by-neighbourhood.aspx

### COVAX

Ontario developed a database for immunization, COVAX. A report from the Ontario Public health Association (OPHA) states that the province introduced new technology, including COVAX at a pace that:

> *…has never been seen before [but] transferring to new public health applications (e.g. CCM, COVAX) in the middle of the pandemic created additional workload on an already strained public health system, burdened the small analytical workforce, and required re-training of staff across the province to maintain continuous reporting*[51].

## Public Health Actions: Assessment

Public health policies and actions of the health unit were continually evaluated, enabling the response to the pandemic to be adapted to the needs of the whole community. A large number of surveys, polling and consultations were undertaken to assess understanding and uptake of public health measures, immunization uptake, mental health, consequences for business, employment and income pressures (see Appendix 1 for examples) (see Recommendation 16).

### Public Health Response: Modification

Internal and public documents show that OPH continued to be nimble and adaptable in carrying out programs serving the community. OPH sought and responded to input and was reflective in examining appropriate responses.

[51] https://opha.on.ca/wp-content/uploads/2022/05/OPHA-what-we-heard_May_2022.pdf

A detailed report was presented to the BoH on COVID Lessons Learned on February 8 2021[52]. Its analysis and recommendations illustrate the continued ability of OPH to look at and criticize its response, but also to seek Provincial support for change.

The report included recommendations to the Province on a variety of issues including the economy, LTCHs, chronic disease and injury prevention, mental health and substance use, technology, collaboration between local public health units and the issue of advance notice of Provincial announcements, noted above. The report also noted that the relationship of OPH with the City of Ottawa had proven invaluable to Ottawa's success in responding to the pandemic.

Specific recommendations in the COVID Lessons Learned Report include that the Province ensure local public health units can retain key workforce levels in order to continue delivering specific core public health functions and provide capacity for surge responses . For example, it was suggested that the school health nurses hired during COVID-19 should be retained and redirected to address mental health and substance use in schools. In addition, it was suggested that there should be investment in resources to support the mental health of workers in the public health and health care sectors as well as other first responders during sustained crises.

Plans were further developed and updated in response to the evolution of the pandemic, including on Continuity of Operations (internal document) in October 2021 (see Recommendation 11). This plan contained categories of operations which were required to be provided continuously or not interrupted for longer than 12, 24 or 72 hrs, and was important for prolonged planning for operations of OPH. There were also considerations on deployment of staff, designation of essential services and negative impacts on the health of individuals and communities, especially

[52] https://pub-ottawa.escribemeetings.com/Meeting.aspx?Id=ac7bc5a1-0e16-435e-4e41-daa6dbd014ea&Agenda=PostMinutes&lang=English

the most marginalized, due to programs and services mandated by the Ontario Public Health Standards (OPHS) that had been put on hold or critically reduced.

## Community Engagement

OPH built upon existing relationships to respond to the pandemic, including in priority, economically disadvantaged, racialized and stigmatized communities. The continuation of community engagement throughout the pandemic was vital. The September 2020 development of a community engagement team as part of community operations was a continuation of a pre-pandemic approach, but with new dedicated resources designed to strengthen OPH's ability to serve the community. The strengthening of community operations is recognized as a very important step in the response.

OPH priority and underserved populations can be expected to have less good indicators of health and increased incidence and prevalence of disease at any time. Investment in serving these populations will have positive results in an emergency as well as other times. The building up of community engagement services is an integral part of health promotion as well as disease management programs.

The Community Operations Service Area – Bridging the Communities Report - August 2021 (internal document) provided a narrative account of the work which OPH's Community Operations service area accomplished since its establishment in the Fall of 2020. The reports states:

> *The Community Operations service area is OPH's roots within the community; they support growth and active involvement in community health from the bottom up, rather than dictating from the top down.*

Community Operations encompasses a number of teams: Community Engagement, Sector Engagement, Business Engagement and Program Support, Reconciliation, Anti-Racism, Vaccine

Strategy. The report concluded that Community Operations must balance the need to engage in emergency responses to pressing downstream issues like inequitable COVID-19 infection rates on particular communities, with the resources and time which long-term, upstream initiatives demand.

Participation in the Health and Wellbeing Taskforce (HWTF) of the City ensured coordination with City social services and community support services.

Certain community engagement activities, programs and services are highlighted below.

### Community Health Centres

Prior to the pandemic, community health centres (CHCs) collaborated with OPH on specific programs including for high risk mothers and dental health.

In the Fall of 2020, OPH engaged the 11 convening partners of the Ottawa Health Team - Équipe Santé Ottawa (OHT-ESO) which includes 6 CHCs, to seek local solutions to problems related to the pandemic response. CHCs were working with community organizations to do outreach door to door visits with masks, sanitizer and information. Three CHCs held testing clinics and the Southeast Ottawa CHC ran mobile testing teams, e.g., for congregate settings.

The OHT-ESO Referrals for Wrap-around Support initiative (internal document) was introduced in the fall of 2020, recognizing the range of barriers some individuals and families faced to follow public health isolation guidelines e.g., language, access to community support, and financial/food insecurity. The initiative was implemented to enable people to safely isolate at home. Clients in need of support were identified and promptly referred to a range of supports during their isolation period. An evaluation of the initiative (for the period of November 11, 2020 to June 14, 2021)

found that partnerships and collaborations were strengthened and clients received support efficiently.

In response to reported issues in relation to ability to access primary care, CHCs involved primary care staff where possible e.g., in door to door immunization in high rise buildings in lower income neighbourhoods.

### Schools, Universities and Colleges

The 2021 OPH Annual Report on School Health (internal document) provides a good overview of school support activities. Throughout a year with school closures in January 2021, and from April 2021 to the end of the school year, Ottawa Public Health's COVID-19 School Support Team (CSST) worked closely with Ottawa's four school boards, public schools, private schools, student transportation operators, principals, staff, parents, and students.

The CSST endeavored to reintegrate School Health services as outlined in the Ontario Public Health Standards with the development of a Prevention Education team. The Prevention Education team was pivotal in delivering COVID-19 related interventions with a health equity focus, including the development and delivery of a COVID-19 presentation in Arabic, and COVID-19 workshops steered by student questions delivered in 12 schools in Q4 and Q5 neighbourhoods[53]. At times there were difficulties in aligning Provincial guidance with the opinions of some parents.

[53] The income quintile group provides a rough ranking of the economic situation of a person based on his or her relative position in the economic families adjusted after-tax income distribution. The population in private households is sorted according to its adjusted after-tax family income and then divided into 5 equal groups each containing 20% of the population. https://www.neighbourhoodstudy.ca/variablesdefinitions/

It was noted that it was not easy for school health staff to switch from health promotion to disease management. This may have also been the case in other programs. Extra experienced staff were added to provide coverage. There were concerns about unintended harms e.g., the school nutrition program was no longer available.

In Ottawa, there are 10 City of Ottawa child care facilities and the remainder are home or school based. There was considerable engagement with this sector. This included IPAC support for outbreaks, townhalls, the development of a web page based on real-time questions, and the formation of a strong relationship with the City's Children's Services.

Community Operations, together with the CSST, liaised with post-secondary institutions.

### Mental Health

The MOH's report to the BoH on April 20, 2020 [54], noted the toll of the pandemic on mental health and the growing concern of violence against women and mentioned a new local initiative, "Unsafe at Home Ottawa" [55]. The complex issues of child protection were being looked at by the City Human Needs Task Force partners.

The MOH's January 28, 2021 report to the BoH [56] on lessons learned found that the pandemic has had a significant impact on Ottawa residents' mental health and substance use. Given the

[54] https://pub-ottawa.escribemeetings.com/Meeting.aspx?Id=db95c385-9aab-1584-4750-8d2966260fa5&Agenda=PostMinutes&lang=English
[55] https://unsafeathomeottawa.ca/ - :~:text=Unsafe at Home Ottawa launched,staffed by experienced, bilingual personnel.
[56] https://pub-ottawa.escribemeetings.com/Meeting.aspx?Id=ac7bc5a1-0e16-435e-4e41-daa6dbd014ea&Agenda=PostMinutes&lang=English

information and data from community and partners and the lessons learned from the pandemic, OPH recommended to the Province various measures to increase the availability and access to mental health resources and supports, including: expanding OHIP coverage to include a variety of mental health and substance use practitioners; expanding eligibility criteria for the Ontario Naloxone Program-Expanded Access program; and increasing access to and availability of culturally appropriate mental health and substance use programs and services.

A guide, "Working Towards Recovery: Workplace Health and Wellness" [57] was developed to help support the mental health and wellness of both employers and employees in the workplace.

### Corrections

The provincial framework for prioritization of services to congregate settings enabled evaluation of the risk of vulnerability of serious illness versus the risk of exposure. Based on this framework correction facilities were evaluated as a moderate risk.

OPH worked with the Ottawa-Carleton Detention Centre (OCDC) throughout the pandemic. OPH provided resources to support the OCDC health services team to conduct outreach and immunization information to people incarcerated at the facility. OPH staff supported the operation of COVID-19 vaccine clinics, including ensuring informed consent prior to immunization, answering questions about the vaccine and providing standard after-care information.

Since March 2020, there have been 5 confirmed COVID-19 outbreaks declared at OCDC. IPAC staff and the Department of the Solicitor General worked together to identify, assess and manage

[57] https://www.ottawapublichealth.ca/en/public-health-topics/working-towards-recovery-workplace-health-and-wellness-guide.aspx

cases and outbreaks of COVID-19 through weekly outbreak meetings, daily communications and review of appropriate infection prevention and control measures.

### Indigenous peoples

The OPH Reconcili-ACTION Plan [58] of June 2018, updated in 2021, confirms the core commitment of OPH to Reconciliation. The Health Unit has had a close relationship with the Indigenous community in Ottawa since 2007. It was reported that this relationship is valued and built on trust and a respect for self-determination. The pandemic contributed to moving this relationship forward.

At the onset of the pandemic, the Indigenous Health Liaison was re-deployed to provide other services which left an important gap in service to Indigenous clients, including responding to specific questions, e.g., IPAC. This gap was soon corrected.

There is no specific mention of Indigenous peoples in the Emergency Plan or the Interagency Pandemic Influenza Plan (see Recommendation 1). Despite this, OPH recognized the importance of serving and working with the Indigenous community, and adapting information and messages as directed by the community. There were regular “touch points” between the MOH and the community and liaison with services that provided support that might include Indigenous peoples, through the HNTF, e.g., food banks. There was very positive feedback on immunization clinics set up with Indigenous partners to support the community. OPH introduced mandatory training of immunization staff which included trauma informed care and cultural safety. Specific assistance was requested, e.g., on PPE, IPAC, and case management as a result of the trusted relationship.

[58] https://documents.ottawa.ca/sites/documents/files/rec_actionplan_en.pdf

An April 3, 2020 report to the Incident Management Team on Covid-19 Pandemic Response & Urban Indigenous Peoples (internal document) considered priorities of the 11 partners in the Ottawa Aboriginal Coalition (OAC) [59]:

> *Personal protective equipment(PPE), food insecurity (i.e. especially with the closure of local programs that would provide meals), specific safe spaces for self-isolation (particularly in the context of escalating violence against women), mental health supports (e.g. for isolated seniors; individuals experiencing addictions and substance use and PTSD triggered by historical trauma), Wi-Fi access (i.e. most vulnerable people rely on free Wi-Fi in public spaces), staffing needs and associated gaps in essential services, including outreach, lack of understanding related to infection transmission, and lack of support for workplace health and safety issues.*

As a result, "wise" practices for communications, case management and public health surveillance and immunization were proposed.

The Coalition had a research committee which was engaged early on in the collection of data on Indigenous identity. After consideration, the Coalition agreed to the collection of indigenous identity as part of OPH COVID case management. The OAC has been leading qualitative research to document the experience of First Nations, Metis and Inuit throughout the pandemic.

### People who are under-housed

Shelters received different directives for responding to the pandemic from funders, OPH, and Ontario. To assist, OPH provided attention and support to this community. Generally the relationship worked well, despite initial problems due to a lack of understanding of operational issues in shelters.

Shelter staff were more comfortable working with established contacts. Managing the first outbreak was very difficult and directions from OPH and the Province were said to be 'random" and impossible to comply with. For example, there was a large outbreak of 100 asymptomatic

[59] https://www.ottawaaboriginalcoalition.ca/

positives identified within 12 hrs, in a shelter which included persons who inject drugs. The difficulties encountered by shelters carrying out public health directives were not well understood by OPH at first, but providers and OPH were able to develop a better, pragmatic, working relationship.

OPH provided advice on the interpretation of public health orders, e.g., for a person diagnosed with COVID-19 who might lose a job, or lose time at work, as a result of having to comply with public health demands. The pandemic was layered onto issues of homelessness and a toxic drug supply and, despite directives which might have required cessation of services, it was not possible for providers to cease some programs, e.g., for harm reduction.

At first, OPH staff contacts with organizations serving those who were under-housed kept changing, but this began to improve even before the Community Engagement team was created. OPH attended congregate meetings, which was deemed very helpful, as community workers could engage OPH staff and ask questions directly rather than by phone. Information from the OPH Epi Team was very helpful, i.e., infographics and dashboards.

### Immigrants and Racialized Communities

OPH is a valued partner in the Ottawa Local Immigrant Partnership (OLIP) having worked with the community to establish trust before the pandemic. OILP informed OPH about initial concerns with the pandemic response and together they were able to strategize and make “protection plans”. OLIP reported that it was grateful for the openness of OPH and, while understanding was not sufficient on its own, there was a willingness to change OPH practice in a community engagement model.

Key findings to date in an ongoing epidemiologic study in the Somali community on the effects of the pandemic (internal document) indicate that un-employment/ under-employment remains the top issue, followed by the negative impact the pandemic had on the education of young people and access to health care. For issues that were exacerbated by the pandemic, most participants identified mental health as the most significant, followed by substance abuse and unhealthy eating habits.

OLIP and the MOH instigated recommendations on immunization to prioritize certain neighbourhoods around March 2021 and there was a significant increase in immunization coverage. There was variability in the ability to access clinics, and pharmacies which provide vaccine are not necessarily located in underserved neighbourhoods. No examples of racism or stigmatization directed towards clients were reported in immunization clinics.

OPH worked with the Ottawa Black Mental Health Coalition in preparation for Black Mental Health Week in March 2022 and a series of educational sessions highlighting leadership and innovative approaches for African Caribbean Black (ACB) mental health and wellness planned.

The BoH discussed OPH's participation in the City of Ottawa's Anti-Racism Strategy [60] in June 2022, and OPH has appointed a Program Manager, for Health Equity, Diversity and Inclusion who will act as a system auditor.

### Disability and accessibility

OPH worked with the City Accessibility Office and the City's Diversity and Inclusion Officer to ensure that there was a process to communicate and accommodate needs during the pandemic.

[60] https://ottawa.ca/en/news/committee-endorses-citys-first-ever-anti-racism-strategy

These City partners provided ongoing consultation and support. An accessibility request form/ process for OPH vaccination clinics was developed and information was posted on the OPH website. OPH, with the City, was able to build accessibility into all of the community immunization clinics, and hosted information sessions on COVID-19 vaccines for people with disabilities and for the hard-of-hearing and deaf communities. Sessions had sign language interpretation, (American Sign Language (ASL) and Langue des signes québécoise (LSQ).

A web page with ASL and LSQ videos was developed that provided information on a number of different COVID topics.

Feedback from people with disabilities about immunization clinics was sought and included, e.g., a request that Para Transpo have designated drop-off sites.

Homebound vaccination was provided by a network of partners upon request or referral. Mobility devices (wheel chairs) were on site at all clinics. A mobile team conducted vaccination clinics at congregative living settings and a partnership was established with Rotary Home whose own staff delivered the vaccine in select sites and congregate living settings.

Enhanced supports were provided for special education programs, including linkages to the Kids Come First Health Team housed at CHEO, to ensure that children requiring accommodations for immunization were able to attend specialized clinics and had easy access to barrier free testing opportunities.

### "Sector" Engagement

Building trust and relationships with many "sectors" required new approaches during the pandemic. Sectors include business[61], sports and entertainment[62], construction, personal service settings, farmers markets, landlord organizations (for multiunit dwellings), places of worship, child care, not-for profit community organizations and the Ottawa Public Library . OPH also supported City of Ottawa departments e.g., Recreation, Cultural and Facility Services and Family and Social Services, that work with some of these sectors.

While it became very clear that there might be tension between conflicting health and safety needs, and social and economic goals, during this pandemic, engagement allowed OPH to better understand the various realities of different sectors and better serve and have their input to inform OPH work. This led to sectors having a better understanding of the need for adherence to public health measures to reduce risks for staff, customers, members and patrons. In addition, collaboration with sector partners allowed for relationship building based on trust. Policies and guidelines were developed with sector realities in mind, which may have led to better compliance to health recommendations. These relationships also created better access to partners for focus groups and consultations.

Engagement and collaboration activities included webinars, townhalls, focus groups, newsletters, and ongoing consultation. In particular, extensive consultations with the business sector took place in October and November 2020, which framed OPH policies and programs .

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[61] Mayor's Economic Task Force, Ottawa Tourism, Ottawa Board of Trade, Regroupement de gens d'affaires (RGA), Ottawa Coalition of Business Improvement Areas (OCOBIA), Retail Council of Canada, Ottawa Restaurant, Motel and Hotel Association (ORMHA) – Ottawa Chapter, City of Ottawa – Economic Development Services, Private gyms and fitness centres

[62] Hockey of Eastern Ontario, Ottawa Sports Council, City of Ottawa – Recreation, Culture and Facilities Services (RCFS), OSEG, Event Central – Special Events Advisory Committee member, Ottawa Festivals Network

In 2021, a Business Stakeholder Engagement Plan for Workplace COVID-19 Vaccine Communications and Clinics was developed (internal document) and, in April 2021, OPH conducted key informant interviews (internal document) on vaccine distribution and workplace pop-up clinics.

In late 2021, a Stakeholder Engagement on Workplace Priorities & Future COVID-19 Response (internal document) was conducted with a variety of sectors.

OPH developed guidance for faith leaders based on feedback about the issues they were seeing amongst their members. OPH staff formed trust-based relationships and circulated weekly key messages that could be *included* in sermons. Newsletters were circulated to faith leaders and organizations whenever a change in the legislation impacted their operations (which happened frequently), and connected with leaders to ascertain feedback about the impacts of new initiatives e.g., the use of masks, capacity limits, and immunization. Staff also responded to inquiries, collaborated with other OPH teams to support faith leaders e.g., IPAC during outbreaks, and highlighted the availability of mental health training for faith leaders.

Approaches to rural issues were implemented and rural engagement to increase immunization uptake was the subject of a presentation in April 2022 (internal document). It was reported that community service providers and Community Resource Centres alerted OPH of specific needs in rural neighbourhoods and that OPH was good at fulfilling needs and taking opportunities for engagement.

## Public Health Response: Evaluation

OPH regularly considered the progress of the organization's pandemic response in modifying plans and programs. For example, the COVID-19 Hot Debrief (internal document) in June 2020 noted concerns in congregate settings as were discussed above.

In July 2020, a briefing note on planning for resurgence (internal document) described strong public confidence in OPH and acceptance of public health measures and noted that the City and community partners were actively engaged with OPH in planning through various tables, task forces and a large number of independent consultations. The note concluded that:

> *This could be interpreted as high confidence in OPH as well as high reliance on OPH for information, surveillance data, decision support and technical skill…Regarding the general public, [the] EKOS survey shows socialization of protective behaviours by individuals, compliance with physical distancing, handwashing, masks [and] staying home when sick. The COVID-19: What We Heard Survey report validated that most residents have changed habits during [the] pandemic.*

Key Learnings in September 2020 (internal document) identified concerns about assignment of roles (see Recommendation 13) for Emergency Management and the need for clear understanding of the IMS. For Assessment and Surveillance, it was observed that demand far outweighed capacity. Many reports to the BoH included additional evaluations [63].

[63] February 2021: Lessons Learned working with LTCHs
February 2021: Covid-19 pandemic response – looking ahead and building back better
September 2021: Support for schools
September 2021: Ottawa Public Health post-pandemic recovery planning presented a three pronged approach: Restore prioritized services and programs with a focus on supporting the community recovery and ongoing COVID response, Recharge - Support employee wellness, Reimagine- Identify opportunities to advance and strengthen OPH's programs, services and processes to support the community post-pandemic
September 2021: Protecting Our Community's Health 2022 Strategic Action Plan Refresh presented opportunities: Support community recovery, increase collection and use of health equity data, focussing on the needs of neighbourhoods, coordinate community and partners to address mental health/ substance use health needs, continue to build and strengthen partnerships.

The evaluation of Wrap-around Support in November 2020 to June 2021 (internal document), found that it was difficult for some individuals and families to follow public health COVID-19 isolation guidelines due to a range of barriers, specifically language and access to social network/ community support, income or financial and food insecurity. The program offered a range of supports, including food, mental health, and finance. Clients reported being satisfied with the support(s) they received which enabled them to isolate as required by public health guidelines.

In February 2022, the PHMU Considerations for Re-opening (internal document) and the OPH Transition Planning Roadmap (internal document) were produced. These kind of considerations are vital and it remains to be seen what scenarios are most likely to occur later in 2022.

## Communications

Public health policies and actions are only as good as the quality of the partnerships between OPH and the various communities in the City. Regular, clear and appropriately designed communications are the foundation of understanding, building support for, and compliance with advice and orders. In order to be convincing, these messages must have the support of community leaders.

The OPH communications team has dealt with 20 enhanced responses in recent years and staff have emergency response training. During the pandemic, timely and reliable data formed the basis of statements to the BoH and media, the promotion of personal public health action, information distributed to those most at risk and sectors affected adversely, and the development of the OPH website and social media.

Communication and community engagement were tailored by sector, e.g., long-term care, child care, other businesses, sports, schools, post-secondary institutions, faith communities, and community supports. Communications were adapted in consideration of differences across communities, the needs of the Indigenous communities, and the need for accessibility. Throughout, OPH Communications ensured ASL interpretations, including for video streaming, of updates to elected officials and the public.

The MOH , the Deputy MOH and AMOsH presented approximately 140 special statements to the BoH, the public and the media between March 15, 2020 and March 2022, developed with the support of program staff and the communications team. Statements, public service announcements, media availabilities and technical briefings provided information on a variety of issues, including on schools, guidance for parents, e.g., for Halloween, mental health, Indigenous

peoples' health, family violence, alcohol use, and the economic burden on the community. They were also a means to promote resilience and a sense of community in the face of the pandemic. The PHMU 100 Day Report relating to March 2, 2020 – May 5, 2020 (internal document), stated that OPH had received a total of 658 media inquiries, completed 77 media interviews, made 33 special statements from the Medical Officer of Health and/or AMOsH, and there had been 29 media availabilities (19 led by OPH, and 10 led by the Public Information and Media Relations of the City).

One statement by the MOH, on April 21, 2020 [64], is a good example of communication to partners:

> *I want to thank the Registered Nurses' Association of Ontario (RNAO) for their support during this crisis to significantly enhance our capacity with over 100 nurses for triaging, test results, case management and contact tracing. Our City of Ottawa partners deserve recognition and thanks. Other City departments have been supporting our efforts in various ways, including the redeployment of resources to OPH and support of the Human Needs Task Force and the Business Task Force…Thanks also to our healthcare system partners for their continued efforts to increase capacity, share resources, facilitate patient flow, and so many other aspects of this response. Lastly, I want to thank the media for their continued work in ensuring residents have accurate, timely information.*

During these public events the MOH did not shy away from expressing concern. As shown by the Oct 2, 2020 statement:

> *As Ottawa's Medical Officer of Health , I'm sounding the alarm. This is our warning bell. With this spike, we have entered crisis territory and if we do not slow the transmission, it will lead to stricter lockdown, closure of businesses, public venues and even schools. Nobody wants this. I do not want this. Closures have a very negative impact on the health of individuals and our community. [65]*

On December 21, 2020, the MOH included a critical comment on the Provincial shutdown[66].

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[64] https://www.ottawapublichealth.ca/en/public-health-topics/previous-statements.aspx - April-21-2020--Special-statement-from-Dr-Vera-Etches

[65] "https://www.ottawapublichealth.ca/en/public-health-topics/previous-statements.aspx - October-2-2020--Special-statement-from-Dr-Vera-Etches

[66] https://www.ottawapublichealth.ca/en/public-health-topics/previous-statements.aspx - December-21-2020--Special-statement-from-Dr-Vera-Etches

There was a presentation to Mayor's Economic Partners Taskforce July 2020 on Living with COVID Stage 3 (internal document). In April 2020, a "Maskforce" was created to give specific advice to Ottawans on the use and acquisition of masks (internal document). This was important given the continuingly evolving recommendations on mask use and the appropriateness of specific mask types.

Another means of promotion was through a YouTube channel, e.g., the One Million Reasons campaign[67], in collaboration with health care institutions. OPH recognised barriers to accessing information on the internet and worked with agencies, e.g., Refugee 613 and shelters, to produce print media (posters). Multilingual resources were available early on, including in Simplified Chinese, and in March 2020, OPH "brainstormed" regarding the number of languages in which materials should be available. Noting that the COVID-19 pandemic had caused a rise in stigma and prejudice against those who have the virus, OPH issued a position statement on stigma[68].

OPH also communicated to staff though vehicles such as the Daily Buzz and the MOH's weekly "Reflections and Updates" email.

## Website, Information Centre, Emergency Lines and Social Media

There were numerous iterations of the website reflecting feedback from stakeholders, including improving navigation and links to social media. Hospitals preferred to use the OPH website for distributing information, e.g., relating to testing.

[67] https://www.youtube.com/watch?v=pz2m4NXQ1YQ
[68] https://www.ottawapublichealth.ca/en/public-health-topics/resources/OPH-Position-Statement---Stigma-and-COVID.pdf

A Client Survey was sent to media partners in May and October of 2020 which showed satisfaction with the overall quality of communications from the OPH media team (>85%) and satisfaction with the frequency and quality of media availabilities (~80%). In January, a usability review also indicated positive feedback.

Three new web pages were created with contents in Arabic, Somali and Simplified Chinese to reach these non-English or non-French speaking residents. These languages were chosen to reflect the higher proportion of residents impacted by COVID-19 who speak these languages. All OPH COVID web pages have a link for a google translation function that allows the entire contents of a page to be translated into any one of more than 300 languages.

Quantitative and qualitative data were collected on social media channels and the communications team produced issue summaries for management. In response to negative comments on social media, it was decided to adopt a “preventive” not combative tone. There have been phases of negative commentary on social media and at the time of this report more extreme views are being expressed.

Local communications are important when directives and guidance are coming from multiple sources. For example in 2020, OPH’s Health Information Centre responded to more than 80,000 inquiries and over 98,000 in 2022 and, from April 2020 to the end of 2022, the Emergency Response COVID-19 Infoline responded to more than 162,000 phone calls and emails. An Emergency Response Vaccine Booking Line was established in February 2021 and responded to more than 221,500 phones calls during that year. OPH’s website had more than 11.7 million visits in 2020, compared to just over 920,000 in 2019. With respect to social media engagement in 2020, OPH’s English Twitter account (@ottawahealth) passed 100,000-followers. Between the English (EN) and French (FR) OPH Twitter accounts, 2020 attracted over 41,700 new followers,

over 930,000 profile visits and 78,500 mentions. Similarly, OPH's Facebook accounts had more than 24,200 followers and engaged with over a million users. In addition to OPH's existing parenting Facebook page and Instagram accounts, OPH also launched two new channels in 2020: Aging Well in Ottawa/Bien Vieillir à Ottawa – Facebook pages which focused on the needs of older adults in Ottawa – and a TikTok account to keep up with the changing demographics and needs of youth and young adults.

## Communication with physicians in the community

Some regular channels of communication to communities of medical practice that existed before the pandemic ceased, e.g., Continuing Medical Education (CME) events. It was reported that physicians in the community felt ignored initially. Private physicians Facebook groups began to include speculation and criticism. This required intervention from OPH to engage physicians and request involvement to better communicate with the group.

After August 2020 there were weekly public health alerts and Physicians' Update LIVE webinar sessions (YouTube), which garnered 2600 views from July 2020 to April 2021. Subscribers to Physicians' Updates increased from 937 to 1935 from 2019 to 2021.

The COVID-19 physicians and health professionals website was launched on January 28, 2020 has been visited by 40,821 unique users with 117,641 views. It was reported that the website for physicians has gradually improved, but is under-resourced. The site needs to be more tailored to primary care physicians and specialists in the community. In addition to the above initiatives an online physician COVID-19 reporting tool was developed to facilitate mandatory reporting.

There is a tally of 688 family medicine contacts and 4776 physicians and nurse practitioners in Ottawa to consider serving (see Recommendation 13) but there is no one channel that will reach all physicians.

## Human Resources (Recommendation 14)

OPH has had to manage unprecedented demands on staff throughout the pandemic. Staff were assigned different roles and responsibilities and a large number of new staff had to be hired. Staff needed to be orientated, deployed, supervised and supplied with tools for interviewing, recording information and counselling clients. Requirements had to be calculated and scheduling managed in times when needs changed rapidly. Those delivering services face to face with the public required appropriate personal protective equipment, the standards for which evolved over time[69]. In addition, policies had to be developed for staff immunization, screening, and return to work after isolation or quarantine.

OPH staff, supervisors, managers and public health specialists rose to the challenge and served the public with distinction. But, this involved long hours, 7days a week, and stress, not only from work responsibilities, but also from concern for the health and wellbeing of family and friends.

OPH staff numbers increased from 600+ to 3000 at the peak, with 85% of staff working on COVID. As an example, there were 30 staff working on communicable diseases pre-pandemic; 350-400 nurses, nursing students and medical students were hired into this program in March 2020 over only 10 days.

A survey, Wellness at Work, was conducted early on in May 2020, with a 32% response rate (internal document). Employees reported that support from colleagues, family and friends and efforts for flexible work arrangements had helped employees to manage through change. The biggest challenges were related to staffing and scheduling, with respondents indicating additional

[69] OPH maintains a four week supply of PPE as required under the pandemic plan.

difficulties, including adapting to change, inadequate communications especially to those in core operations, workload, lack of supervisor support, and mental health. In order to stay engaged and well, employees identified the importance of supervisor support, more communications, opportunities to connect with teammates, vacation, attention to supplies, and ergonomics for tele-working employees. Leaders reported scheduling issues and concerns around new roles and expectations, lack of communication, and concerns about the mental health of their employees.

A human resources unit was created in OPH to supplement City services. Input obtained during this review indicated that OPH capacity for training new staff did not match the vision of the IMS. With significant help from the City, difficult logistical and IT issues were addressed. It was reported that assigning some staff to leadership roles lacked adequate preparation and there were observations, initially, of inequities in temporary promotions. The change to a 0800 to 2200 workday, 7 days a week from a normal M-F 7.5 hrs a day, was not well planned. Changing the work week to allow at least one day off was beneficial. While compensation for overtime is available for staff, managers are not eligible.

Supervisors lacked the time to adequately track HR issues. The system of formal performance reviews ceased with the result that some individuals who may have benefited from feedback, did not receive formal guidance before returning to their substantive positions. Problems of managing work-life balance and “burn-out” were not necessarily recorded and sick leave and overtime were also not systematically followed up initially. Monitoring of overtime improved over time.

Unions representing non-management staff were cooperative even where orders under the “Emergency Act” allowed flexibility in scheduling and work hours. Unions only brought forward really pressing issues but there were regular channels of communication, and joint problem-solving.

## Conclusions

OPH is a respected and quality organization with underlying values based on equity and inclusivity. During the COVID-19 pandemic, OPH has shown great leadership and this leadership has been widely appreciated in the community.

Ethical principles were used as a guide for developing and modifying the pandemic response and OPH built upon existing relationships to respond to the pandemic, including in priority, economically disadvantaged, racialized and stigmatized communities. The continuation of community engagement throughout the pandemic was vital and the strengthening of community operations, including community engagement, in September 2020 is recognized as a very important step in the response.

OPH had an Emergency Plan and Influenza Pandemic Plan the goals of which were reflected in the response of OPH to the COVID-19 pandemic. The pandemic required adaptation to a new viral threat with no specific treatment or vaccine, and which evolved over many months. These factors required an unprecedented response and OPH was able to adapt accordingly.

Continuous surveillance and risk assessment was ensured, although it would have been beneficial to have had access to Provincial risk assessments much sooner. The informal “Thought Leaders” panel that advised the MOH was useful in providing an external risk assessment.

The PHMU was actively involved providing expertise in all aspects of the pandemic response, but had to engage Public Health and Preventive Medicine residents, medical students and retired public health specialists in order to boost capacity.

Analyses of risk led to the development, adoption and adaptation of policies and actions congruent to the ongoing threat. Multiple and rapid changes in direction from the Province had to be accommodated. OPH initiated collection of socio-demographic data (SDD) from cases in May 2020, generating learnings useful for ongoing data collection. While the real-time usefulness of SD information from cases was reduced as a result of limited uptake, the data that were collected and analyzed were valuable.

Public health policies were communicated to multiple sectors and communities in Ottawa and actions prioritized to assist individuals and groups at greatest risk of infection.

OPH assessed the response of Ottawans to public health policies and took action to promote trust, understanding, acceptance and compliance. Communications provided a strong foundation to the response.

OPH had to make choices in balancing the overwhelming pressure to respond to COVID-19, while recognizing the burden of other diseases and other health priorities. It will be important to continuously monitor and evaluate the results of such choices. For example, health protection services were curtailed and the significance of this was not determined, while the demand for IPAC services increased dramatically to respond to unmet need in congregate settings, beyond the mandate of the health unit. There were indications that there were concerns amongst staff about the balance between the prevention and control of COVID-19 disease and health promotion and health maintenance programs.

Case and outbreak management was an enormous task which staff confronted and managed successfully despite the greatly increased burden during surges of infection in the community. Understandably, there were initial problems as a result of multiple sources of advice and direction

but these were overcome. While the immunization program required a tremendous amount of work in collaboration with the health care sector, the community and the City, it was successful and OPH demonstrated great flexibility in changing approaches in order to enable equitable access to vaccines.

The staff and managers of OPH responded to the call for action, but there was a toll in terms of stress from long working hours, separation from family, and increased responsibilities. The sum of these consequences may not have been realized because, although information on adverse consequences were recorded in surveys of staff, they were not systematically collected. Human resource services had to step up to support OPH in engaging, deploying and managing a vastly increased staff complement.

OPH is well positioned to continue to respond to the pandemic as it continues to evolve. It is suggested that OPH consider the recommendations below to further strengthen its response. Openness to examining how to increase immunization coverage and how to continue to accurately monitor the number of infections as the pandemic progresses in 2022 will be particularly important.

The COVID-19 pandemic will either wind down or new variants will emerge giving rise to further waves of infection. Meanwhile, and into the future, more, serious prolonged events of public health significance are expected to continue to occur, particularly as a consequence of climate change. This will require OPH to prioritize and balance resources used in surveillance risk assessment, disease and injury prevention and control programs, and health promotion and health maintenance programs.

The recommendations that follow are made to enable further strengthening of the ability of OPH to respond to emergencies and are consistent with the recent report of the Public Health Physicians of Canada (PHPC) on Lessons Learned [70].

[70] Managing: Prioritize sustainable investment and staffing capacity. Acknowledge and address the significant burnout among public health and health care teams.
Monitoring: Invest in and develop public health information systems.
Decision-making: Improve and prioritize community engagement.
Prevention and promotion: Maintain a focus on the importance of health promotion and prevention, alongside treatment.
Studying: Invest in practical research that is timely and informed by the needs of public health service delivery.
Reforming: Collaborate with communities to address systemic discrimination in health care and public health, including with respect to Indigenous health, with dedicated funding.

## Recommendations

Recommendation 1: That the OPH Emergency Plan, the Ottawa Interagency Influenza Pandemic Plan (OIPP) and the Continuity of Operations Plan be reviewed and revised to ensure that they are fit for purpose for a prolonged emergency such as the present pandemic or an extended climate emergency and that they include language that is inclusive and representative of the entire Ottawa community. Public health plans and responses should be complimented by health-care system preparation and responses.

Recommendation 2: That OPH continue to collect socio-demographic data to assist in the equitable provision of services to the community. OPH should propose to Ontario that standard common socio-demographic data elements be developed which are applicable to the whole Province.

Recommendation 3: That OPH develop a policy for collaboration with research institutions during an emergency on projects that have direct utility in assessing or adapting a public health response. OPH should ensure that evaluation and related research is prioritized during an emergency.

Recommendation 4: That OPH seek agreement with the Province regarding the timely sharing of Provincial risk assessments and intelligence to health authorities to enable local decision making.

Recommendation 5: That OPH, through the CMOH of Ontario, discuss with PHAC appropriate sharing of information when handing off responsibility for travellers who require follow-up under the *Quarantine Act*.

Recommendation 6: That OPH consider taking steps to develop an electronic system to manage cases of communicable diseases reportable under the HPPA, in addition to COVID-19, to replace the current paper based system .

Recommendation 7: That OPH collaborate with Public Health Ontario to acquire information to better understand the potential for increased risks to food safety from changes in practice and modes of operation during the pandemic that might apply to businesses in Ottawa.

Recommendation 8: That OPH collaborate with the Ontario Health regional IPAC Hub to promote a response to increased expectations for IPAC support of congregate settings.

Recommendation 9:

That OPH and health care partners should consider how to ensure representative PCR testing to consistently monitor trends in SARS-CoV-2 infection, in order to identify and respond to a possible resurgence of cases of COVID-19 in the fall of 2022, and consideration should be given as to how to increase coverage of initial courses and boosters of COVID-19 vaccine when planning for a possible resurgence of SARS-CoV-2 in the fall of 2022 [71].

[71] https://www.cmaj.ca/content/194/25/E870

Recommendation 10: That consideration be given to ensuring that extra expert capacity is available in a prolonged emergency to share the burden within certain units; for example, the PHMU, the Epidemiology team, and the Infection Prevention and Control program.

Recommendation 11: That plans for continuity of operations in a long-term emergency include an analysis of the potential adverse effects of program reductions, e.g., on health protection, health promotion, health maintenance, the prevention of chronic disease, injury prevention, mental health, parenting, child health, dental health, substance use, sexually transmitted infections and tuberculosis and the human built environment.

Recommendation 12: That staff undergo training to ensure that across the organization there is an understanding of the Incident Management System in the context of a large or prolonged emergency response.

Recommendation 13: That consideration be given to how to best collaborate with family physicians, other physicians, and nurse practitioners in the community during a prolonged emergency, so that these health professionals are able to contribute effectively in the prevention and control of infection or other threats to health.

Recommendation 14: That OPH take steps to ensure that, in a prolonged emergency, human resources are a priority. In particular:

- Leadership training should be enhanced to ensure that those who are asked to take on supervisory roles are equipped to do so.
- The formal monitoring of performance is maintained.

- Consideration be given to compensating managers for overtime after a specified number of hours has been worked.
- Examining the relationship between the staffing unit and managers to expedite management of issues of:
    - Scheduling of shifts,
    - “burnout” and loss of staff,
    - performance and perceived inequities in promotions.

### Recommendation 15:

That consideration be given to formalizing a “Thought Leaders” panel of independent experts to advise the MOH during on an ongoing emergency response.

### Recommendation 16:

That ,in addition to maintaining quality assurance and quality improvement programs, OPH should consider regular monitoring of the well-being of the community in relation to the adverse or positive consequences of public health policies and actions, for example, in the areas of mental health, economic status, and access to health or community support services. Monitoring should be done in collaboration and partnership with the affected communities.

### Recommendation 17:

The future evolution of the COVID-19 pandemic is unpredictable. Surveillance and risk assessment programs will be fundamental to identifying recrudescence of the disease by providing or interpreting information on wastewater monitoring results, test positivity, ill health, admissions to hospital and mortality. It is predicted that the threshold for re-introduction of public health orders, e.g., requiring use of masks and the curtailing of business and social activities, will be high. Therefore, it is recommended that there be continued regular reporting of indicators

of the level of community transmission which will promote awareness of COVID-19 and keep individuals, communities and decision makers informed if there is a need to revisit public health policies.

## Recommendation 18:

OPH is having to deal with the immediate crises of the COVID-19 pandemic, Monkeypox, toxic drug poisonings and the health effects of climate change while also responding to other continued threats to health in the areas of infectious diseases, chronic diseases, mental illness and injury. The response to future threats may need greater investments in surveillance and risk assessment, infection prevention and control, case and contact management of certain infectious diseases, outbreak investigation, food safety and immunization. These functions are prime responsibilities of public health authorities, although carried out in partnership with the community, whereas, physical and mental health promotion, environmental health, reproductive, family and child health and occupational health are a shared responsibility with the health care sector, community services, schools, municipal provincial and federal authorities, and the private sector. Determinants of health and ill health are often beyond the realm of public health programs but are influenced by public health advice, guidance and pressure ,e.g., tobacco, physical activity, diet, and the built environment. Therefore, it is recommended that OPH, in making program priorities, should carefully consider take into account health issues which can be directly impacted by its programs, and those which it can most effectively impact through partnership and collaboration with communities.

# Appendix 1

To inform OPH, 35 meetings were conducted in June to October 2021 between the MOH or Deputy MOH and various partners and stakeholders. The results of these consultations with multiple stakeholders, including health care, schools and business, were used for recovery planning, a theme at that time (internal document).

There were also evaluations of specific initiatives, for example the OHT-ESO Referrals for Wrap-around Support Evaluation (internal document).

Consultations with youth and young adults on COVID-19 communications in April-June 2020 (internal document), produced key insights including: the routine for many young people had profoundly changed as a result of COVID-19. The response to the pandemic offered some upsides but for most, downsides were more prevalent. While most were adhering to the practice (of physical distancing) it was clearly more challenging for some, and increasingly more difficult. The report stated that continued recommendations to physical distance will be met with considerable sadness and frustration, but most will adapt. Most would be receptive to more information, although messaging, tone and style should be adapted to optimize reach across age.

Public Health Measures Polling (EKOS) involved 200-250 people over 15 weeks in 2020 and 7 weeks in 2021. In 2020 questions were on public health measures (hand washing, masking, physical distancing, gatherings) and in 2021 on immunization (intent, enablers/barriers).

Population surveys [72] involved 500-850 people in 4 waves in 2020 and 2021.

[72] https://www.ottawapublichealth.ca/en/reports-research-and-statistics/societal-impacts.aspx - Health-Services

Example of key findings in Oct 2020 were that Ottawa residents continued to report worsened mental health and emotional well-being, loneliness, weaker community connectedness and concern for burnout. Some respondents including women, younger adults (<45 years), people with a disability, people identifying as racialized, people not born in Canada and people identifying as 2SLGBTQ+, generally fared worse that others or continued to report poorer mental health, stress, loneliness or concern for burnout. There appeared to be a positive effect of school and daycare re-openings on family mental health.

The Employment and Income Pressure survey – June 2020 (part of the Population Surveys), reported that one in ten (11%) Ottawans were not working because of the COVID-19 pandemic and 28% reported a decrease in income since in mid-March. One-fifth (19%) of Ottawa residents said they had difficulty paying for either housing, food or utilities. This was more common among residents with a disability, those with lower household income and those who had a decrease in income since mid-March.

Consultations through Engage Ottawa[73] What We Heard**,** were carried out in 4 phases from May 2020 until the end of 2021 (internal document). The City and Ottawa Public Health asked residents to share their thoughts through a variety of channels, including using an Engage Ottawa survey, Engage Ottawa forum questions, and email submissions. The information obtained had to be interpreted carefully as it was not collected from a representative sample of Ottawans. For example, findings from the May 2020 process were that :

> *overall, residents said that they have changed their habits during the COVID-19 pandemic, increasing practices like avoiding touching their eyes and face, hand washing, physical distancing, making only essential trips out of the home and wearing a mask. Residents also responded that certain restrictions have been challenging to comply with including limitations on gatherings and the closure of parks, schools and childcare centres. Other concerns related to the COVID-19 pandemic included mental health,*

[73] https://engage.ottawa.ca/

*financial and economic impacts, easing restrictions, access to medical services, and contracting COVID-19.*

Surveys on immunization were also conducted, e.g., a Pop-up clinic exit survey May-July 2021 which showed that drop in clinics were not being accessed to full capacity, (~50% of planned capacity week of May 28th) ,neighbourhood borders remain confusing for many residents and 'ineligible' residents were turned away (internal document). It was concluded that pop-up clinics needed to be restricted to income Q5 neighbourhoods where around 34k residents were still to be vaccinated, in order to try and achieve 80% coverage.

A Mobile Vaccine Clinic survey showed that 68% of respondents had received enough information promoting clinics and 70% were satisfied with overall experience and quality of service (internal document).

A survey of the Afro-Caribbean and Black (ACB) Community as conducted in June-July 2021 with a sample of 199 residents in priority neighbourhoods and 72% of respondents identified as AC or B. Feedback indicated specific barriers related to access but also showed a perceived lack of confidence in COVID-19 vaccines (internal document). The main reasons for this were mistrust of information and fear of long-term side effects. The feedback from the survey indicated that the main sources of information about vaccines that residents relied on the most were, social media and friend(s), family, and neighbors. The analysis of the results also highlighted that one out of five responders had not received enough information on COVID-19 vaccines to make their decision to get vaccinated or not.

The informal Thought Leaders Group provides advice and counsel to the MOH (noted in OPH's Role to Support Re-opening internal document of May 2020), and is a way to ensure that outside independent advice is available to the OPH leadership (see Recommendation 15).