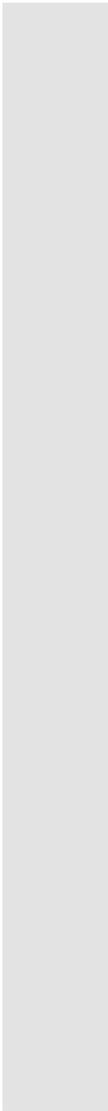




Public health
system
evaluation and
lessons from the
first peak of
COVID-19

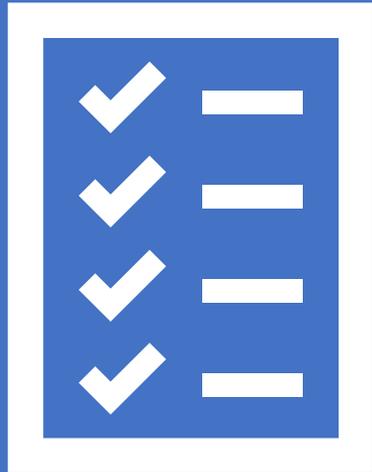
A report on behalf of
the Council of Ontario
Medical Officers of
Health

August 2020



The **Council of Ontario Medical Officers of Health**, a section of the Association of Local Public Health Agencies, is committed to improving the health of Ontarians and increasing health equity by strengthening Ontario's public health system. This report and supporting appendix are presented on behalf of the Council in an effort to achieve its mission through system leadership and coordination in collaboration with the provincial government and other organizations, and through evidence-informed advocacy on public health policy.

Context



- Local public health units have spent months **leading the response to the COVID-19 pandemic across sectors** in their communities
- Public health is evaluating its actions and **sharing lessons learned** from the first peak and resurgences
- These findings can be used to protect Ontario's communities by:
 - Building on aspects of the public health system response that should continue or be enhanced during resurgence and future peaks
 - Informing health system planning and preparedness for resurgence of COVID-19 and the upcoming influenza season
 - Leveraging the strengths of the local public health system connections with community to ensure cross sector interventions
 - Enhancing collaborative efforts with the public health system and health system partners in the Ministry of Health, Ontario Health, Ministry of Long-Term Care, and Primary Care

Impact of public health



- Contained COVID-19 and **prevented our health system from being overwhelmed**, despite seeing jurisdictions that demonstrated early control now facing significant resurgence^{1,2}
- Implemented widespread and timely public health measures and local public health responses that **prevented an estimated 220,000 cases and 4,400 deaths**³
- Local public health units kept **cases contained** by tackling challenges faced with re-opening and by tracing growing numbers of contacts for every case

1. Public Health Agency of Canada. Update on COVID-19 in Canada: Epidemiology and Modelling (August 14, 2020).

2. Government of Ontario. COVID-19 case data (August 14, 2020).

3. Office of the Premier of Ontario. Ontario provides full transparency by releasing COVID-19 modelling [press release] (2020 April 3).

Methods



- The Council of Ontario Medical Officers of Health (COMOH) initiated a sector-wide evaluation to:
 1. Capture what happened during public health's prevention, preparedness, and response efforts in the first six months of the COVID-19 pandemic
 2. Identify and learn from aspects of the public health system response that should continue or be enhanced during resurgences and future peaks
 3. Apply lessons learned to prepare for resurgences of COVID-19, the upcoming influenza season, and future pandemics
- Evaluations and continuous quality improvement processes have been carried out by local public health units through reviews, surveys, and interviews with their teams, the public, community partners, and stakeholders across sectors, which have been incorporated into this report.

Methods

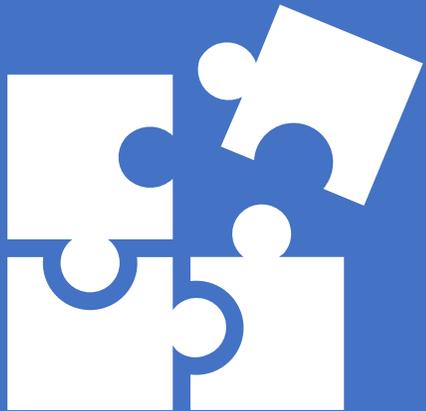


- All Medical Officers of Health invited to participate in the evaluation via email from COMOH on July 24, 2020
- 17/34 (50%) local public health units participated (60% rural, 40% urban), sharing insights on >100 local initiatives
- Working group members collated responses and used qualitative methods (thematic analysis) to synthesize findings
- Further input received from all COMOH membership at two meetings
- Appendix outlining local public health initiatives, partner feedback, and collaborative efforts accompanies this report

Key questions:

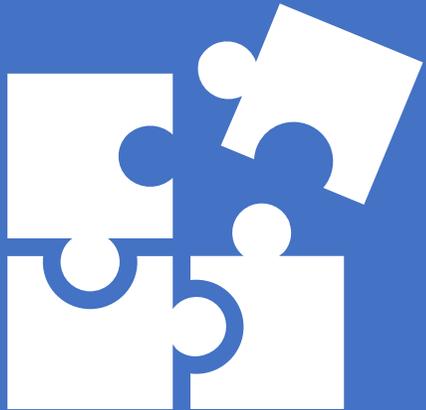
1. What **worked well** during the first peak?
2. What could be **improved**?
3. What should **continue** or be **enhanced**?
4. What else should we consider for **future COVID-19 planning** and **influenza** in the coming months?

Key components of local public health response



- **Protecting our communities** using public health measures to protect people from the virus, by minimizing transmission and deaths
- **Supporting sustainability of our health care system** by preventing cases and transmission
- **Protecting and supporting** those most adversely impacted by the pandemic due to poverty, social circumstance, or other discrimination
- **Leading and supporting recovery across our communities** to mitigate against the health, social, and economic harms of the virus, isolation, and restrictive measures
- **Partnering and collaborating to support** municipal, education, social service, health care, business, and community sectors
- **Communicating timely evidence-based information and data** to the public and partners

Key components of local public health response



- Using **surveillance and epidemiological analysis** to target public health action and inform local health partners
- **Synthesizing new scientific evidence, research and evaluation** to apply the most effective and up-to-date public health interventions locally
- Conducting **intensive and meticulous case management and contact tracing** while supporting isolation requirements
- **Preventing and rapidly responding to outbreaks** in community, workplace, congregate, and institutional settings
- Identifying key priorities and populations for **focused testing strategies**
- **Preparing for safe re-opening** of local schools, workplaces, daycares, personal service settings, restaurants, and other spaces
- **Planning and preparing** our health system and communities for resurgences, future peaks, and influenza

Sustaining the local public health response



- **Local public health leadership** has been critical to protecting health and **tailoring responses** to meet the needs of our communities during the first peak
 - **Experience** and **technical training** in public health emergencies and health protection prepared local public health to respond and built on existing pandemic preparedness and business continuity plans
 - **Public health measures** prevented illnesses and deaths that would have **overwhelmed our health care system** and continue to threaten to do so as seen in other jurisdictions
 - Public health leadership **brought communities together** to flatten the epidemic curve using preventive measures that continue to be a mainstay of the response
 - The most effective system in a public health emergency relies on **independent local public health authorities** that can leverage strong partnerships and community knowledge to adapt direction that is coordinated at the provincial level
- Public health holds a unique, **established, and trusted position that allows collaboration** with municipalities, schools, childcare settings, businesses, social services including congregated settings, health care and institutions, media, and community organizations to **effectively shape local response**
 - **Provincial and regional coordination** is critical to supporting the strong leadership and response undertaken by local public health units and boards of health
 - Pandemic response required rapid mobilization and scaling up of a **skilled public health workforce that will need ongoing investment** to respond to resurgence and increasing complexity of case management and contact tracing
 - Public health innovation and adoption of new **digital solutions** to improve effectiveness and efficiency have been vital to enhancing widespread detection and containment efforts

Themes identified in the public health system evaluation

Public health's effective response relied on



Early upstream interventions to **prevent** illness and **prepare** our communities



An approach to improving health of the whole population with a focus on **health equity**



Leveraging **local partnerships** to translate provincial direction into effective local action



Provincial and regional **coordination** to support local implementation



A highly skilled and agile **workforce** that will require ongoing investment



Digital solutions to optimize efficiency and support data sharing

Prevention and preparedness

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"Keep up the good work! We depend on you to keep us safe by keeping an eye on the important things that may affect our health while we do what we need to do."

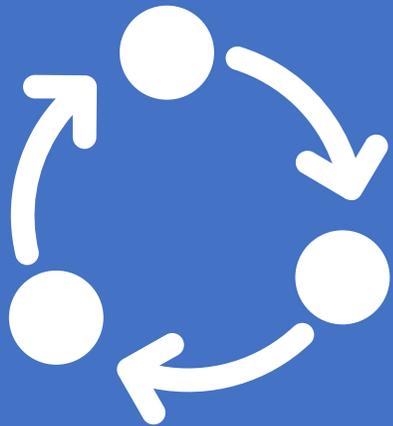
- Community partner feedback

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Local public health expertise focused on **community-wide pandemic preparedness** and **upstream prevention of illness and death**

- Worked with local partners to ensure health system capacity was not overwhelmed
- Rapidly moved to enhanced operations and IMS structures due to pandemic preparedness and continuity of operations planning
- Advocated for early interventions to address **personal protective equipment (PPE)** needs across sectors, **implementing testing** of all staff and residents within outbreak facilities, and for **universal masking** in hospitals, long term care and retirement homes, and community and primary care settings
- Conducted **proactive infection prevention and control (IPAC) assessments** with partners to prevent local outbreaks in congregate settings, essential workplaces, and institutional settings
- Shared **modelling projections** for transmission with the public and partners while tailoring surveillance and epidemiological analyses to support communication about local situation

Prevention and preparedness



Highlights from the field

- Due to concerns of community transmission, **Peel Public Health** along with other local health units across the province pre-emptively closed nightclubs, concert venues, theatres, and dine-in services at restaurants ahead of provincial direction.
- **Halton Region Public Health** worked closely with local hospitals and LHINs to lead a congregate setting strategy, which took a pro-active approach with all congregate and institutional settings in doing in-person IPAC visits and assisted these priority settings in ensuring appropriate IPAC measures were in place to reduce their risk level for COVID-19.
- **Simcoe Muskoka District Health Unit**, in partnership with primary care and hospitals, proactively established local assessment centres prior to provincial direction.
- **Hamilton Public Health Services** conducted proactive pre-opening inspections of all licensed childcare programs in the city, working with the Child System Services Manager to ensure the safe re-opening of all child care spaces.

Health Equity



"Our shelters have had relatively low numbers, and we expected to have numbers like long term care facilities. We should think about what we are doing right."

- Community partner feedback



- Public health applied **population-level interventions** that addressed **health equity** by considering the needs of settings that may be more vulnerable to COVID-19 and populations that would disproportionately experience the negative unintended consequences of public health measures
 - Identified and addressed needs of **people who may be more susceptible** to COVID-19 by providing IPAC and testing support to congregate settings such as **shelters and long term care homes**
 - Partnered to develop **isolation centres** for people experiencing homelessness, distributed non-medical masks to those with limited means, and mobilized volunteers to provide supports like **grocery or prescription delivery** to people in isolation or quarantine
 - Monitored and mitigated the **unintended consequences** of public health measures by providing PPE to **community agencies** serving priority populations, continued to distribute **naloxone kits** and other essential public health services, and partnered with local agencies to address rising **mental health and substance use** concerns
 - Developed new methods for engaging and collaborating with communities on the collection of local raced-based and socioeconomic data

Health Equity



Highlights from the field

- **Timiskaming Health Unit** convened a Community Support Collaborative to identify priority population needs arising from COVID-19, and partnered to access funds for cleaning supplies, PPE, and Plexiglas partitions for private transportation providers in rural communities without public transit.
- **York Region Public Health**, in collaboration with shelters, identified an increase in domestic violence rates and developed resources to support this population with guidance for individuals experiencing abuse during heightened times of isolation.
- **Public Health Sudbury & Districts** ensured local partners working with priority populations were trained in IPAC measures to continue to safely deliver services, supported the implementation of isolation shelter for people experiencing homelessness, and mobilized volunteers to provide supports to people in isolation.
- **North Bay Parry Sound District Health Unit** enhanced their community harm reduction work through promotion of new harm reduction messages within the context of COVID-19, redirecting clients when service disruptions occurred, and collaborated on a community alert when surges in adverse events related to drugs were detected in the community.

Partnerships



We as an organization depend on public health webpages, news releases, and phone calls for the advice we need to give the people we support a better quality of life.

- Community partner feedback



- Public health acted as a **bridge across health and social systems** to enhance **collective community action** for a strong and effective response
- **Leveraged existing local partnerships** with health care sector, municipalities, schools, and community organizations to facilitate:
 - Collaborative planning tables to ensure coordinated local responses and resources for **First Nations, Inuit, and Métis** community members
 - Provision of IPAC support to **hospitals, long term care and retirement homes, child care centres, and congregate settings like shelters, group homes, and detention centres**
 - Direct support for local implementation of public health measures including development of regulations and by-laws and **tailored guidance for schools, businesses, child care centres, and community organizations** in order to protect the health of **workers and their clients**

Partnerships



Highlights from the field

- **Public Health Sudbury & Districts** has a First Nations Community Partners Table to discuss community needs during the pandemic, share resources, and help make connections with other sectors (e.g., to support re-opening plans, surveillance testing, and community pandemic response plans).
- **Simcoe Muskoka District Health Unit's** past pandemic planning enabled a strong, collaborative relationship with municipalities when responding to COVID-19. Weekly teleconferences enabled a coordinated response to a number of challenges, including public crowding on beaches and use of face coverings in indoor public spaces.
- **North Bay Parry Sound District Health Unit** partnered with a local construction company to develop COVID-19 safety protocols well in advance of these being asked by the Ministry.
- **Hamilton Public Health Services** worked with local Indigenous service providers to launch an Indigenous peer-to-peer COVID-19 phone line to access public health information on COVID-19.
- **Ottawa Public Health's** relationship with the City of Ottawa enabled success in countless initiatives from redeploying city staff and infrastructure to the response, working rapidly to implement a bylaw for indoor masking, proactively building a safer approach for public transit and emergency child care centres, and working as a member of the city's Human Needs Task Force to plan for food security, housing, transportation, volunteer services, fundraising, and psychosocial supports.

Coordination



From the hospital perspective, most decisions made by health service partners have an impact on our operations. The coordination by [a local public health unit] to many, if not all, players at the same table at the same time, hearing the same message, enhanced our understanding and response

- Hospital partner feedback



- **Coordination** between local public health units helped strengthen the pandemic response, improve efficiency, and share work loads:
 - Public health units **shared human and digital resources, technical expertise and new methods, and collaborated** to promote regional consistency during times of uncertainty from the earliest phases of the pandemic
 - Increasing proportion of public health workforce **working remotely** while **embracing new technological platforms** for engagement has allowed greater coordination and collaboration across jurisdictions
 - Public health **implemented provincial strategies**, while allowing for local variation and adaptation due to different **local contexts** on issues such as community transmission, cross-border travel, masking, testing, and laboratory capacity
- **Provincial and regional information sharing** through channels such as Ministry Emergency Operations Committee calls, updates from Public Health Ontario, calls with Medical Officers of Health, and Ontario Health regional planning tables

Coordination



Highlights from the field

- **Eastern Ontario Health Unit, Leeds, Grenville and Lanark District Health Unit, Renfrew County and District Health, and Ottawa Public Health** coordinated to develop a mandatory masking policy to ensure consistency across the region and avoid duplication of efforts, with each public health unit then moving forward to adapt within their own local context.
- Since January 2020, the **Ontario Public Health Emergency Managers Network** shared updates, resources, consultations, and professional development information amongst its members to support local responses.
- Medical Officers of Health in the **Greater Toronto and Hamilton area** worked together during the pandemic to share information and where possible, coordinate their responses given the mobility of individuals within their geographic area.
- **Porcupine Health Unit** and **Timiskaming Health Unit** formed a working group to provide timely and consistent responses and support to School Boards that span their districts. The group also aims to reduce duplication of effort related to ongoing COVID-19 supports for schools.

Workforce

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The ability of the IMS structure to be flexible and responsive to the emerging needs was extremely helpful. Training by the Rapid Response Team helped to ready people. I think we did amazing work, and I am very proud to have been part of it.

- Local public health unit staff

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- **Local public health leadership** rapidly responded to COVID-19 by applying **years of experience in public health emergencies** and working with community partners on IPAC and outbreak management
- When redeployed to the COVID-19 response, public health’s highly skilled workforce has **adapted quickly to new roles and technologies, demonstrating resilience**
- **Key public health skills and roles** highlighted in the response include epidemiology, emergency preparedness, IPAC, case management and contact tracing, health communications, community engagement, and focus on health equity implications of pandemic
- **Critical core services that protect the health of our communities**, such as public health inspections and responding to other infectious diseases, continued to be offered during the pandemic and must continue in order to prevent increased pressures on the health care system

Workforce



Highlights from the field

- *"From the time I received the call that I was positive to COVID-19, I ALWAYS felt like I had the support of **Algoma Public Health**... Having gone through the experience, the community should have complete faith in the process - I have never answered so many questions in my life and to say that your case management was thorough is an understatement. The nurses on your front line were remarkable... I truly felt like they cared about my physical and mental wellbeing."* – Community member feedback
- While many health system partners were scaling back and experiencing lower volumes, **Huron Perth Public Health and Brant County Health Unit** rapidly scaled up from a Monday to Friday 8:30 - 4:30 and 24/7 on-call operation to Monday to Friday two shifts with evenings, weekend shifts, and 24/7 on-call in order to respond to the need for support to the public, partners, and stakeholders.
- *"They received a call, they responded immediately. They gave accurate information and they followed up on each situation that I was involved in."* – Community partner feedback to **Public Health Sudbury & Districts**

Digital solutions

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Excellent media and social media presence with clear, succinct, and recent evidence-based principles.

- Community partner feedback

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- Local public health units adopted new **digital solutions** that were critical to **optimize the function, efficiency, and effectiveness** of case management, contact tracing, and outbreak investigation and management
- Dashboards were developed to **visualize data** while allowing for **real-time transparency** of public health efforts and health system pressures, including indicators for local monitoring and informing re-opening decisions
- Public health workforce rapidly adapted to new platforms for working remotely and continued supporting case and contact management efforts virtually

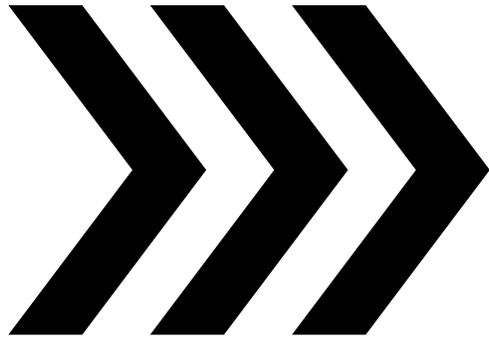
Digital solutions



Highlights from the field

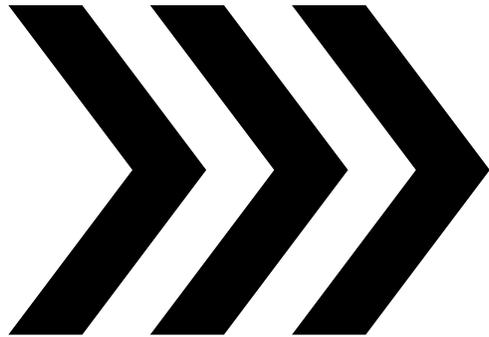
- **Ottawa Public Health** developed a dynamic disease reporting system. The COVID-19 Ottawa Database (known as “The COD”), adapted from a system used in Newfoundland and Labrador, supports local case management and contact tracing. Building from this database has led to development of novel epidemiological methods and technology to detect potential clusters earlier and mobilize resources to investigate.
- **KFL&A Public Health**, working with the Office of the CMOH, enabled the real-time capture of suspected COVID-19 emergency department visits across the province in the Acute Care Enhanced Surveillance (ACES) system and built the Pandemic Tracker as a public tool (<https://www.kflaphi.ca/aces-pandemic-tracker/>).
- Machine learning was developed by **York Region Public Health** to optimize the utility and interpretation of OLIS lab results data to support the automation of reporting and timely case follow up.
- **Hamilton Public Health Services** adapted existing technology used for routine inspections of food premises. Inspectors record COVID-19 IPAC observations and education data into the existing Hedgehog Inspection System to ensure all information is stored together.
- **Middlesex-London Health Unit** developed Azure software and several other local public health units were able to use this platform to facilitate the COVID-19 response.

Opportunities to sustain the public health response



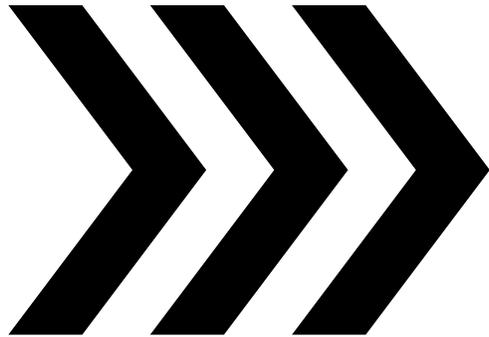
- Local public health must provide ongoing **leadership and guidance in all essential public health functions** to support sectors and tailor responses that meet the needs and strengths of our communities
 - Continue to lead planning and preparedness efforts in our communities using data-driven projections and evidence-informed interventions founded in public health expertise
 - Lead clear, concise, and engaging public health communications across traditional and social media platforms that enable the public to reduce their risk
- Local public health must build on **partnerships and collaboration** across sectors to **address new and complex community challenges** such as return to school, increased demand for health services, increase in visitors to long term care homes, re-opening of businesses, and larger social gatherings
 - Build well-resourced school health teams led by local public health to prepare and respond to new cases while supporting students and families with mental health and other health concerns

Opportunities to sustain the public health response



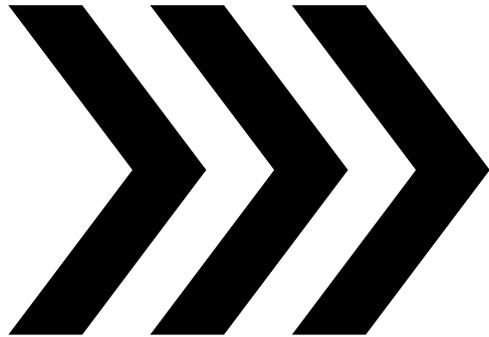
- There must be investment in **local public health workforce** to allow for surge capacity needed for increasing complexity of pandemic response and maintaining critical core public health services
 - Support collaboration between local public health units through new or existing public health “hubs” where resources can be shared and broader actions coordinated without reducing workforce
 - Enhance surge capacity for contact tracing and outbreak management by enabling rapid movement of workforce from one jurisdiction to another, based on local epidemiology
 - Enhance sharing of expert technical guidance, standards of practice, communications products, data analysis
 - Explore strategies to ensure and promote workforce resilience, while protecting mental and physical health

Opportunities to sustain the public health response



- There must be **increased resources for IPAC and outbreak management** in higher-risk settings and priority populations to minimize severe illness that would strain the health care system
 - Health system support and ongoing collaboration with Ontario Health for targeted and mobile testing strategies as part of early community cluster response
 - Proactive IPAC through audits and consultation with higher risk congregate and institutional settings in partnership with the broader health system
 - Review effective strategies to increase population uptake of influenza vaccine as added protection during resurgence and reduce potential strain of respiratory illness on the healthcare system

Opportunities to sustain the public health response



- **Local public health expertise and connections with community** must be capitalized on at regional and provincial tables
- Roles of **key health system players** must be clarified and mutually respected for maximum health gains
 - Clarify and align roles across Ontario pandemic response structure for public health and health system partners including local public health, Ministry of Health, Chief Medical Officer of Health, Public Health Ontario, Ontario Health, and Ministry of Long-Term Care
 - Ensure public health and acute care expertise are informing each other's separate but complimentary actions through partnerships at the five regional Ontario Health pandemic response tables, with clear lines of communication with local and provincial planning tables
 - Streamline reporting and coordination on pandemic response for medical officers of health with Chief Medical Officer of Health while maintaining local independence and accountability to boards of health
- **New technologies** must be developed and adapted to support case management, contact tracing, and outbreak investigations so local public health units can enhance effectiveness despite growing complexity
- Innovative technologies must be explored to help with **advanced planning, forecasting, and operational response** in dealing with resurgence and other respiratory illnesses

Community
partner
feedback

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Thank you for the long hours and tireless work to try to get us through the pandemic. I know we have smart and innovative people who work for us to come up with solutions for us to live during this pandemic. We can get through this together.

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