GPHIN Daily Report for 2020-10-07

Special section on Coronavirus

Canada

Areas in Canada with cases of COVID-19 as of 06 October 2020 at 19:00 pm EDT
Source: Government of Canada

Province, territory or other	Number of confirmed cases	Number of active cases	Number of deaths
Canada	171,323	17,799	9,530
Newfoundland and Labrador	277	4	4
Prince Edward Island	61	3	0
Nova Scotia	1,089	3	65
New Brunswick	205	5	2
Quebec	81,014	8,082	5,899
Ontario	55,362	5,469	2,987
Manitoba	2,246	781	24
Saskatchewan	1,984	139	24
Alberta	19,211	1,900	281
British Columbia	9,841	1,413	244
Yukon	15	0	0
Northwest Territories	5	0	0
Nunavut	0	0	0
Repatriated travellers	13	0	0

A detailed epidemiologic summary is available.
https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html

Canada – Coronavirus disease (COVID -19) Outbreaks and Outcomes (Official and Media)

Canada
Remarks from the Chief Public Health Officer on COVID-19, October 6, 2020
From: Public Health Agency of Canada

Speech

Good afternoon.
There have been 168,960 cases of COVID-19 in Canada, including 9,504 deaths. Over the past week, labs across Canada have tested an average of over 71,000 people daily, with 2.5% testing positive. National daily case counts continue to increase, with an average of 1,951 new cases being reported daily during the most recent 7 days. At the same time, we are monitoring closely an upward trend in the number of individuals with COVID-19 requiring hospital care. Over the past week, there have been an average of 613 COVID-19 cases in hospital on any given day and 16 deaths reported daily.

Thanksgiving is a special time for many Canadians; a celebration centered on visiting and enjoying meals with families, friends and neighbors. University students travel home and faith groups gather in thanks. People often head indoors as temperatures drop and the weather becomes more unpredictable. We will be able to return to these cozy indoor gatherings one day, but while we live with COVID-19, we all need to think carefully about our Thanksgiving plans this year to protect ourselves, our loved ones and communities. This is very hard because friends and family give us comfort and it might feel safer to gather with them; but this is in fact a false sense of security and can increase the risk of COVID-19 for those you love the most.

There is a great illustration by New Zealand-based Siouxsie ("Suzy") Wiles and Toby Morris that I tweeted out this morning and I am hoping you are able to view through media today. It shows us how quickly one case can become many in the absence of controls. It also shows us how the choices we make as individuals can have a big impact that will help to keep case numbers low.

There are in-person activities we all need to do and there are others we can live without. By limiting our number of close contacts we can all help to slow the spread of COVID-19 and help essential services, businesses and educational facilities remain open. Wherever you live, this year's cornucopia needs to include an abundance of personal protections and a set up for virtual or safe distancing connections. Gatherings indoors will be safest if they only include household members, especially where infection rates are highest. Gatherings outdoors that involve people from outside our households will be safest if well-spaced. Remember, too close is too close, even if you are outdoors. Don't share food or objects, "Bring-Your-Own" is safer. Do share friendships, experiences and the great Canadian outdoors – together apart!
https://www.canada.ca/en/public-health/news/2020/10/remarks-from-the-chief-public-health-officer-on-covid-19-october-6-2020.html

Canada
Tsuut'ina First Nation closes schools, admin office after COVID-19 case confirmed
ID: 1007988378
Source: CBC

Summary The First Nation notified residents of the closure in a notice posted to its Facebook pages, signed by chief and council, late Monday night. Tsuut'ina First Nation has closed all schools and its administrative offices due to COVID-19 exposure at a community gathering. It did not say how many people may have been exposed.

Tsuut'ina First Nation has closed all schools and its administrative offices due to COVID-19 exposure at a community gathering.

The First Nation notified residents of the closure in a notice posted to its Facebook pages, signed by chief and council, late Monday night.
"Due to a recent community gathering, there has been a confirmation of a COVID-19 infection, we have decided to go above and beyond protocol to protect nation citizens," the notice reads.
It did not say how many people may have been exposed.
Another notice, posted to the nation's emergency management Facebook page, stated that anyone who attended a memorial feast on Sunday is required to self-isolate for 14 days and be tested for COVID-19.
It said those who attended a wake or funeral on Monday are required to self-monitor for symptoms of COVID-19 for 10 days but do not need to isolate at this time.
Nation members can call 403-258-4830 to arrange to be tested.
https://www.cbc.ca/news/canada/calgary/tsuut-ina-school-closure-1.5752793?cmp=rss

Canada
Workers trapped at Nunavut mine in midst of COVID-19 outbreak growing anxious, says employee
Source: CBC
ID: 1007989071

Summary sent to mine employees Tuesday, obtained by CBC, says it hopes to have an approved travel plan for getting employees home from the Nunavut government in the next 24 to 48 hours. Anxiety and depression is growing among workers trapped at Nunavut's Hope Bay mine because of a COVID-19 outbreak, according to an employee at the site. CBC has been in contact with a worker at the mine and has agreed not to name them due to fear of retribution by their employer.

Anxiety and depression is growing among workers trapped at Nunavut's Hope Bay mine because of a COVID-19 outbreak, according to an employee at the site.
CBC has been in contact with a worker at the mine and has agreed not to name them due to fear of retribution by their employer.
The mine is experiencing an outbreak of COVID-19. The government confirmed seven new positive cases in a news release on Monday, bringing the total number of positive cases at the mine to nine. Four more people have been deemed presumptive positives; they're waiting for final results from southern labs.
"Nobody currently at site wants to be here living through this but everyone's hands are tied because of the restrictions the government [of Nunavut] is putting on us," said the mine employee.
"I know the current management and senior staff here, and I can tell just by looking at them the level of stress they are under. If it was up to them and the company we all would've been gone a week or more ago."
The employee says the main stress for workers is not knowing when they will be able to return. All mine workers in Nunavut come up on charter flights from southern Canada.
"I hold responsible for this complete mess and mishandling of the situation, the government of Nunavut," the employee said.
TMAC Resources Inc. owns the Hope Bay mine, which is 125 kilometres southwest of Cambridge Bay.
The government news release Monday said all non-critical travel to and from the mine, including scheduled shift changes, have been cancelled.
Nunavummiut who work at the mine were sent home at the start of the pandemic to ensure COVID-19 wouldn't enter Nunavut communities.
"We have absolutely no word or idea when we will be leaving," said the employee. "That is perhaps the most stressful and frustrating part."
A letter from TMAC Resources Inc. sent to mine employees Tuesday, obtained by CBC, says it hopes to have an approved travel plan for getting employees home from the Nunavut government in the next 24 to 48 hours.
The worker says employees have been rotating out on a three-week schedule and were supposed to leave the mine by Sept. 29. Work has ceased at the mine except for staff who are performing critical jobs to keep the camp functioning.
The employee says they are cautiously optimistic about the promise to get people home.
"I'll believe it when I see a plane land," said the employee.
Rapid response team deployed

The Nunavut government said Monday that 12 staff are in isolation at the mine. It said the ones continuing to work are "following strict measures to keep isolated from those around them, including wearing masks."
Nunavut's rapid response team was deployed to the site last week to deal with the outbreak, including two nurses and a logistician trained to trace, track and contain the virus and help reduce the risk of further transmission.
The news release Monday said the team will isolate in their home communities upon their return.
The employee wants to know why they can isolate at home while mine workers have been forced to stay on site.
CBC contacted Jason Neal, president and CEO of TMAC Resources, and Nunavut's Chief Public Health Officer Dr. Michael Patterson; neither were available for comment by time of publication.
The employee says he's heard workers talk about ways to shut down the mine so they can leave, such as a strike, or power outage, forcing an evacuation.
"It could be just talk out of frustration at this point," said the employee. "As this drags on over days I think it becomes more of a serious issue."
'Bunch of pissed off people'
The employee says there are no senior management or executives on site but there are department superintendents and supervisors.
"No security whatsoever. Nothing but a bunch of pissed off people getting increasingly frustrated every day," said the employee.
"The longer we sit here and wait frustrated the messier it's going to get. Some have already quit their jobs."
The employee says the lack of communication is also keeping people on edge.
The employee says workers have reached out to the government of Nunavut about the situation, but no one has heard back.
Communication from TMAC Resources has come in the form of letters, like the one sent Tuesday, or to senior staff on site who pass on the message to staff.
Nunavut's Health Minister George Hickes has assured Nunavummiut that risk to residents is low.
About the Author
Jackie McKay is a Métis journalist working for CBC in Nunavut. She has worked as a reporter in Thunder Bay, Yellowknife, Whitehorse and Iqaluit. Jackie also worked on CBC Radio One shows including The Current, Metro Morning, after graduating from Ryerson University in 2017. Follow her on Twitter @mckayjacqueline.
https://www.cbc.ca/news/canada/north/hope-bay-nunavut-mine-covid-1.5752889?cmp=rss

Canada
Simcoe Manor confirms surge of infected residents amid outbreak
Source: CTV News
GPHIN ID: 1007984608

BEETON, ONT. -- Simcoe County health officials report a significant increase in COVID-19 cases inside the Simcoe Manor in Beeton since an outbreak was declared Friday.
"We have 16 positive cases confirmed today, and we have six staff positive cases confirmed as of today," says Jane Sinclair, general manager of health and emergency services at the County of Simcoe.
The county says the 171 staff members at the Simcoe Manor were tested Monday, and enhanced screening measures are in place for everyone inside the long-term care facility.
In the meantime, all indoor and outdoor visits are suspended until further notice. The only exception is for essential visitors.
Enhanced cleaning measures are underway, and all residents are isolated to their rooms as a precaution.
"We have extensive screening processes. We have screeners at the door. We only have one door for the staff to come into our facilities and it is very, very tightly screened," Sinclair says.
The health unit is working to trace how the virus got into the home.
This is the second time the Beeton facility has had an outbreak declared since the pandemic. A man in his 70s triggered the first after becoming infected in June.
https://barrie.ctvnews.ca/simcoe-manor-confirms-surge-of-infected-residents-amid-outbreak-1.5134118

Canada

COVID-19: Thanksgiving with your household only, even if planned outdoors, OPH says

Source: Ottawa Citizen

GPHIN ID: 1007984508

Ottawa's largest COVID-19 assessment centre at Brewer Park as well as care clinics on Moodie Drive and Heron Road are closed Monday.

The current Ottawa Public Health instruction to restrict close contact to those you live with also applies to children – even if they're mixing with others at school.

"In the school environment, there are more layers of protection," Dr. Vera Etches, Ottawa's medical officer of health, explained at a Monday press conference. This includes daily screening, work to keep children distanced, and cohorting, she explained.

"We really do mean, outside of that school environment, that we want to limit the contact, the close contact, that children have."

The updated OPH guidance, first shared last week, means that any social contact with people you don't live with should involve at least two metres of distance and take place outdoors, said Etches. Those who need close contact beyond their own household – people that live alone, for instance, or single parents – should limit this to one or two external supports.

As for any plans you might have to hold an outside Thanksgiving gathering to allow for a celebration with non-household members, Etches advised against it.

"My recommendation is – stick to your household. Because we've seen examples where people gathered in a park and someone was sick and then more people got sick."

Outdoor transmission is possible when physical distancing isn't maintained – "and it's hard, when we're meeting with our friends and our loved ones, to always keep two metres distanced," she explained.

"Don't make it hard for yourself by setting up a situation where that could happen. This year, this time, it's important to do things with your household only."

Etches was also asked Monday why she seems to be using encouragement rather than enforcement to change behaviours that fuel the spread of COVID-19.

"It's evidence-based, people respond best to encouragement and reinforcement and clear information about what they can do, what's within their control. At the same time, we know there are limits," said Etches, noting that provincial law sets enforceable gathering limits and she is aware that bylaw has been laying "an increasing number of charges."

This past weekend, said Etches, fines were given out to businesses and in response to private gatherings that exceeded 10 people.

As Ontario Premier Doug Ford did earlier in the day, Etches stressed that any move to require the widespread closure of businesses, such as restaurants, would be "a very serious decision that has economic consequences for the health of our economy and our population."

"I do appreciate that it was a strategy that was used previously – it was effective, it stops COVID transmission when people can't gather, but it has other harms," said Etches. "And so our elected officials need to weigh in and adjudicate the balance of the different harms in different situations, and what is best for our community overall.

"I'll continue to provide advice to elected officials about what is helpful to control COVID, and I know they're also getting advice about the economy To me, both are important for the health of our city.

[APG]

“People have heard the choice – this is the alternative. If we don’t change our actions, things may become closed. I think we need to give it some time to see how people take up this message.”

Etches was speaking during a joint press conference with health officials in Ottawa and Gatineau to highlight the troubling rise in COVID-19 cases on both sides of the river, and the need for behaviour change now to curb the growth in new cases and relieve pressure on health infrastructure in the National Capital Region.

In the Outaouais, said Dr. Brigitte Pinard, acting director of public health for the region, said cases have increased steadily since the end of August, but more recently, growing hospitalizations and cases among the elderly show that the situation is worsening.

People need to keep two metres from others when they leave the house, wear a mask, wash their hands, and stay home when they have symptoms, said Pinard.

She also noted that “there’s a lot of demand on the testing system” and urged people in the Outaouais to use a symptom self-assessment tool that lives on the Quebec government’s website before seeking testing, and for those without symptoms or close contact with a confirmed case to hold off getting a test.

Contact tracing has become “very demanding,” said Pinard. People can help improve this by providing up-to-date information when they go get tested, responding quickly if contacted by health officials and providing contact tracing information if asked, and limiting close contacts.

In Ottawa, meanwhile, Etches said that the number of new cases reported daily is at an all-time high, hospitalizations and outbreaks are increasing, and more people are dying.

“This is our critical turning point,” said Etches, reiterating her message from last week that Ottawa’s rising caseload has pushed the local health care system to the brink.

“We must limit our close contacts to our households. And when we have to be out in public, we must take proper precautions,” to limit the spread, said Etches. Those who need close contact beyond their own household – people that live alone, for instance, or single parents – should limit this to one or two external supports.

Elsewhere, Ottawa’s largest COVID-19 assessment centre at Brewer Park as well as care clinics on Moodie Drive and Heron Road were closed Monday, following provincial instructions to all assessment centres to discontinue walk-in testing and transition to appointment-based testing starting Tuesday.

Assessment centres that already provide testing by appointment – including CHEO’s program at Brewer for child and youth testing, and a drive-thru site on Coventry Road – were to continue operating as usual.

Another Ottawan, meanwhile, has died after contracting COVID-19, Ottawa Public Health reported Monday. This brings the total number of pandemic dead in this city to 294.

With 81 new cases reported in the last day, there are now 847 active cases of COVID-19 across the city. Twenty-nine people are now hospitalized (up from 27 on Sunday), with five in ICU.

In the last two days, three new outbreaks of the virus were reported in health or congregate care facilities, bringing the total number of active outbreaks in these settings to 29. The number of local child care facilities dealing with active outbreaks of COVID-19 also increased in the last day, by two.

Provincial

The province is giving school boards in the “hotspot” communities of Ottawa, Toronto, Peel and York region an additional $35 million to allow for smaller classes and better-resourced remote learning.

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This money comes from a $50 million reserve in the province's $1.3 billion back-to-school plan to respond to "emerging challenges during the return to school," according to an Ontario government press release.

Thanks to the efforts of school communities, cases have been kept "relatively low," Ontario Premier Doug Ford said Monday.

"The system has been working but we can't take anything for granted, we know there are certain areas of the province that are seeing higher community spread. The schools in those places, they need some extra support."

According to the province, $2.8 million will go to the Ottawa-Carleton District School Board, $1.7 million to the Ottawa Catholic District School Board, $900,000 to Ottawa's French Catholic board, and $600,000 to Ottawa's French Public Board. The boards will be able to use the additional funds to hire more teachers, hire more custodians, or buy new devices for students learning online.

"This province is committed to keeping our schools open – we have an obligation to our young people, to our society, to our working parents, to the mental health of our kids, to keep them in school," said Education Minister Stephen Lecce.

"We want to really help reduce that risk within those communities where we've seen higher levels of community transmission."

Ford also noted Monday that over this week and next, another 100 pharmacies will start offering appointment-based COVID-19 testing for asymptomatic people who belong to one or more eligible groups, such as LTC workers or visitors.

Asked by a reporter about long wait lists, confusion around testing criteria, and difficulty getting through to pharmacies by phone, Ford defended the pharmacy testing model, saying, "It's relatively new, they're going to do an incredible job."

Ford also stressed that before he makes any decision about closing restaurants, he and his team have to see strong evidence and data to justify this measure.

"These are people that have put their life in these small restaurants … I've proven before, we will do it in a heartbeat, but I have to see the evidence before I take someone's livelihood away from them and shut their lives down."

In Ontario on Monday, 615 more people in the province tested positive for COVID-19, including 289 in Toronto, 88 in Peel and 81 in Ottawa.

Five more Ontarians have died after contracting the disease, bringing the province's pandemic death toll to 2,980.

There are now at least 176 people in Ontario hospitalized with the disease (approximately 35 hospitals did not submit data over the weekend), including 43 people in ICU and 26 on ventilators.

In the health unit regions surrounding Ottawa, there were four new cases reported Monday in Eastern Ontario, two in Hastings Prince Edward and Renfrew County and District, one in Kingston, Frontenac and Lennox & Addington, and one in Leeds, Grenville & Lanark.

Across the province, there are now 41 active outbreaks in long-term care homes, 35 in retirement homes and eight in hospitals.

National

Prime Minister Justin Trudeau provided more information Monday about what the federal government is offering Ontario and Ottawa to prop up overburdened testing and contact tracing capacity.

Federal labs are currently processing 1,000 COVID-19 tests from Ontario daily, with more labs slated to come online. The feds also have an agreement with Ontario to provide 500 full-time contact-tracing workers to Ontario, including 30 specifically for Ottawa.

Trudeau said he will be speaking with Ottawa Mayor Jim Watson later today, amidst other conversations with Toronto's John Tory and Brampton Mayor Patrick Brown.

"Our government will continue doing everything we can to support people through this crisis, whatever it takes, as long as it takes," said Trudeau.

He encouraged the public to continue following public health advice and to download the COVID Alert exposure notification app.

According to Trudeau, more than 600 people in Ontario have voluntarily and anonymously inputted their positive COVID-19 test result into the app, allowing it to notify other app users who they were in close contact with.

The number of new cases of COVID-19 reported daily in Canada continues to "increase steeply," Dr. Theresa Tam, Canada's chief public health officer said Monday.

On average, more than 1,800 new cases were reported daily in the last seven-day period, according to Tam. Ontario and Quebec accounted for over 80 per cent of these cases.

Hospitalizations and deaths have also increased. On any day in the last week, an average of 585 people with COVID-19 were in Canadian hospitals, and 14 deaths were reported.

Meanwhile, Canadians forced to miss work because of COVID-19 can now start applying for new financial support from the federal government.

Households are able to apply for $500 per week for up to 26 weeks, when one person misses more than half a week of work to care for a child because of the illness. That includes children whose schools or daycares are closed due to COVID-19, and children who are forced to miss school or daycare because they have contracted the virus or may have been exposed.

The benefit, which Canadians can apply for through the Canada Revenue Agency, also covers people forced to miss work to care for family members whose specialized care is unavailable due to COVID-19.

Canadians will also be able to access a new sick-leave benefit that pays up to $1,000 over two weeks for those unable to work because they have contracted COVID-19 or are forced to self-isolate because of the virus.

A third benefit, replacing the $500-per-week Canada Emergency Response Benefit and available to those who don't qualify for EI (which has been made easier to access), will open for applications starting Oct. 12.

Quebec

Quebec recorded 1,191 new cases of COVID-19 Monday, marking the fourth consecutive day that Quebec has reported more than 1,000 new infections.

Six new deaths were also reported Monday, two of which occurred in the past 24 hours. The number of people in hospital with the disease climbed by 27, for a total of 361.

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“The big increase in hospitalizations over the past few days is worrying,” Health Minister Christian Dubé tweeted. “We can all make a difference to protect the capacity of our health system: let’s limit our contacts and respect (public health) directives.”

Twenty-nine new cases were recorded in the Outaouais Monday, while the number of deaths was unchanged, at 34.

https://ottawacitizen.com/news/local-news/covid-19-walk-in-testing-sites-closed-ontario-reports-615-new-cases?utm_medium=Social&utm_source=Twitter#Echobox=1601976569

Canada
Alberta’s top doctor concerned as COVID-19 cases surge in Edmonton area
Source: National Post
GPHIN ID: 1007984712

EDMONTON — Alberta’s top doctor says she’s concerned about a surge in COVID-19 cases in Edmonton and is alarmed that many people are going to work or socializing while sick. The province recorded 982 active cases in the Edmonton health zone on Monday, up from 851 in Thursday’s update.
The zone, which encompasses the provincial capital and surrounding communities, now makes up 55 per cent of Alberta’s total of 1,783 active cases. The area has just over a quarter of the province’s population.
Chief medical officer Dr. Deena Hinshaw said her office is in talks with local public health and municipal officials to figure out if new restrictions for the Edmonton region are warranted.
She said the new cases are linked to transmission that happened a week or two ago.
“We’re looking at those transmission patterns to understand what would be most effective and if there are any other changes that we need to make to our framework to prevent Edmonton from continuing to have increasing numbers of new cases,” Hinshaw said.
Alberta reported a total of 578 new cases between Friday and Sunday.
There have been eight new deaths over that time frame, bringing the provincial total to 280.
Two of the deaths are linked to an outbreak at the Foothills Medical Centre in Calgary. The hospital has seen dozens of patients and staff contract the virus and sent hundreds of workers into isolation.

https://nationalpost.com/pmn/news-pmn/canada-news-pmn/albertas-top-doctor-concerned-as-covid-19-cases-surge-in-edmonton-area

Canada
Coronavirus Ontario: Researchers develop model that determines who should get COVID-19 vaccine first
Source: CTV News
GPHIN ID: 1007985370

KITCHENER -- Researchers at the University of Waterloo have created a model that can help health officials decide who should get the COVID-19 vaccine first.
The model said people over the age of 60 should be vaccinated first if there's one available by January 2021, because that age group has the highest death rate from the disease.
However, if the vaccine isn't available until the summer of 2021, then a different group could be prioritized, according to the model.
The model can use information from any province or country to decide its vaccination strategy in order to prevent the most deaths from COVID-19.
“When a vaccine becomes available many people will want to be vaccinated at first, and there might be supply issues, so policymakers will have to prioritize which ages should get it first,” UW professor and study co-author Chris Bauch said in a news release. “Under those conditions, the best vaccination strategy for a specific region depends on when the vaccine becomes available, the number of people in a population who have contracted COVID-19 and are now immune, and the social reaction to the virus, such as the wearing of a mask and social distancing.”
The model outlines four COVID-19 vaccine strategies: vaccinating people 60 or older first, vaccinating people 20 or younger first, vaccinating everyone irrespective of their age or to start by targeting the area

of the population that has the most contacts. Researchers said the last three strategies will prevent transmission, while the first strategy targets the most vulnerable group.
Researchers also modelled a case where people didn't change their masking or physical distancing behaviour. If that is the case, the last three strategies interrupting transmission would work better if a vaccine is available at the beginning of the year or in the summer of 2021.
“This research exemplifies how important it is to factor human behaviour into mathematical models of the pandemic,” said Madhur Anand, a co-author on the study and a professor in the School of Environmental Sciences at the University of Guelph. “We all have a hand, or I should say, a mask, in this.”
PhD candidate Peter Jentsch also worked on the study. It has been submitted for peer review and publication. UW said it's being released ahead of that process as part of the university's commitment to informing Canada's COVID-19 response.
https://kitchener.ctvnews.ca/ontario-researchers-develop-model-that-determines-who-should-get-covid-19-vaccines-first-1.5134047

Canada
Researcher at University of Alberta working on coronavirus vaccine panel
Source: CTV News
Unique ID: 1007985446

Tyrell works at the University of Alberta, and is a member of Canada’s 12-person task force advising government on the latest science when it comes to vaccines for coronavirus. EDMONTON -- A prominent Alberta virology expert believes a COVID-19 vaccine will be available to Canadians by the spring. Dr. Lorne Tyrrell is part of a panel looking into the development of vaccines and advising the federal government.
EDMONTON -- A prominent Alberta virology expert believes a COVID-19 vaccine will be available to Canadians by the spring.
Dr. Lorne Tyrrell is part of a panel looking into the development of vaccines and advising the federal government.
“We want to see a safe and effective vaccine,” he said.
Tyrell works at the University of Alberta, and is a member of Canada’s 12-person task force advising government on the latest science when it comes to vaccines for coronavirus.
Around the world, about two dozen vaccines are in the clinical trial stage.
“I think we will hear some very good results, I hope, by the end of the year.”
He expects a vaccine will be available in Canada by the spring.
Tyrell says some of the work is even being done at the U of A.
Once a vaccine is available, it will be up to Canadians whether to get one.
A recent poll found that only about four out of 10 Canadians plan to do that right away.
Health Canada has brought in new measures to speed up the process of getting vaccines to the testing phase.
“When the vaccines are brought to the market, they will be very safe and they will be effective,” he said.
Canada is hedging its bets, currently; the government has contracts with six pharmaceutical companies that are working on vaccines for millions of doses. The first shots are expected to go to frontline responders and people who are vulnerable to viruses before the vaccine is available to the general public.
With files from CTV News Edmonton's Bill Fortier.
https://edmonton.ctvnews.ca/researcher-at-university-of-alberta-working-on-coronavirus-vaccine-panel-1.5133873

Canada
Health Canada approves first rapid antigen COVID-19 test
ID: 1007985676
Source: CBC

Health Canada regulators today approved another rapid COVID-19 test — the first antigen device to receive the necessary approvals for use in this country.

U.S.-based Abbott Laboratories can now sell and distribute the Panbio COVID-19 Ag Rapid Test Device, which can produce results in less than 20 minutes.

The test is advertised as a solution for mass testing in "decentralized settings." Health Canada has authorized it as a point of care test, meaning it can be used by trained professionals in pharmacies, walk-in clinics or doctors' offices.

While the U.S. Food and Drug Administration authorized two antigen testing devices months ago, Health Canada has been reluctant to put its stamp of approval on such tests.

Public health experts and Ontario Premier Doug Ford have been urging the regulators to make more testing options available as the province grapples with hours-long lines at hospital-run testing centres and a backlog of tens of thousands of samples to be tested.

Molecular test approved by Health Canada last week

Health Canada approved another Abbott rapid test last week, the ID NOW, which is the molecular test that has been used at U.S. President Donald Trump's White House to screen staff since April.

The Panbio is designed to give "preliminary test results," and, according to Abbott, a negative result "doesn't preclude SARS-CoV-2 infection."

The company warns that such a test "cannot be used as the sole basis for treatment or other management decisions."

The test is already in use in major Western countries, like France, where it is used to quickly identify those who have been infected in airports or hospital reception areas.

The antigen rapid tests — which, depending on the device, use matter collected from a nasal or throat swab — don't require the use of a lab to generate results.

Tests considered less accurate than PCR

While much faster, these tests are considered to be less accurate than the "gold standard" — the polymerase chain reaction (PCR) testing process currently in use across Canada.

If administered properly, PCR tests are highly accurate, identifying positive cases nearly 100 per cent of the time.

Antigen tests, which detect the presence of viral proteins in a biological sample, are also considered highly accurate but they are not as sensitive as molecular PCR tests run through a lab.

Preliminary results from a clinical study conducted by Abbott on 241 samples found that the Panbio COVID-19 Ag test has a sensitivity rate of 93.3 per cent in people suspected of having been exposed to COVID-19 or showing symptoms in the past seven days.
https://www.cbc.ca/news/politics/health-canada-antigen-test-abbott-1.5751939

Canada
Canadian researchers begin clinical trials of tuberculosis vaccine for COVID-19
ID: 1007988295
Source4: CTV
October 6, 2020 10:57AM EDT

TORONTO -- Researchers in Canada are hoping a century-old vaccine designed to treat tuberculosis can become the key to fighting off a COVID-19 infection.

The University Health Network in Toronto announced on Monday that it has begun the first Canadian trial of the Bacillus Calmette–Guerin (BCG) vaccine on more than 3,600 front-line workers in the area,

including medical staff, paramedics, police officers and firefighters.

“We felt that this first line was clearly the kind of group of people that we would try to protect given the increased exposure,” Dr. Alexandre Zlotta, a researcher at the University Health Network, told CTV News.

“We hope, of course, that the vaccinated individuals will have less infections… (and) protect themselves but ultimately also protect their loved ones.”

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The BCG vaccine was first developed in 1921 and is typically used as a tuberculosis vaccine in countries with high rates of infection, but doctors recently noticed that many countries with high BCG vaccination rates had shown lower COVID-19 rates.

“Many studies have been performed in the past where it was shown that vaccinated people were more resistant against viral infections,” Zlotta said. “What has happened is that people have realized that people who got the vaccine against tuberculosis had their immune system boosted to the point that potentially they could fight off infections which are completely unrelated.”

The vaccine being used for this study is a genetically modified version of the original BCG vaccine made in Germany. Participants will be given either the vaccine or a placebo and will be monitored over the next seven months during the second wave of COVID-19 in Canada.

Sean O’Connell, who’s been a firefighter in Toronto for the past 18 years, was among the first participants to receive an injection late last week.

“If this vaccine is effective, it'll allow me and hopefully other people to be confident that by taking this vaccine, it might not cure the disease, but it'll definitely lessen the effects on people and their lives,” he said.

There are currently at least a dozen similar trials internationally, including in Australia, Europe and Mexico.

One study out of Greece found that the BCG vaccine led to 80 per cent fewer serious viral respiratory infections in the following year after being administered. The study was completed prior to the COVID-19 pandemic, however.

Dr. Madhukar Pai, director of the McGill International Tuberculosis Centre at McGill University, believes one of the key questions to be answered is whether the BCG vaccine has a non-specific impact on the coronavirus, even if it’s not 100 per cent successful.

“In some ways, we know that it's safe because millions of people have received it,” he said. “Even at 50 per cent protective, it's like a mask, you add it to the list of repertoire of things we are all trying to do.”

There are plenty of reasons to be hopeful about the vaccine as well. Researchers say it could be implemented widely in a timely manner as it is cheap and already in use around the world.

“The turnaround time to get this vaccine from the trial to having it readily available for people is significantly shorter than what we've been hearing about,” said Dr. Shariq Haider, an infectious disease specialist at McMaster University.

Still, Pai remains somewhat cautious about the effectiveness of the vaccine, given how widely used it is in India and Brazil, where cases have skyrocketed.

According to Johns Hopkins University, India (6.6 million cases) and Brazil (4.9 million cases) have the second and third most confirmed COVID-19 cases in the world, respectively. Nearly 250,000 people have

died in both countries combined.

“We should all be skeptical because we know (COVID-19 is) a graveyard of drugs and vaccines right now,” Pai said. “We started off with hydroxychloroquine, now we know it doesn't work. We tried antiretroviral drugs for HIV, doesn't work and every time we think something works, medicine teaches us a really humbling lesson.”

Researchers are also urging people not to take the vaccine thinking it will help until they have more data on the matter.

Results from the international studies are expected by the end of 2020, but the University Health Network study isn’t expected to be released until the spring of 2021.
https://www.ctvnews.ca/health/coronavirus/canadian-researchers-begin-clinical-trials-of-tuberculosis-vaccine-for-covid-19-1.5134233

Canada
Coronavirus outbreaks declared at four more Ottawa schools | CTV News
Source: ottawa.ctvnews.ca
Unique ID: 1007986582

The Ottawa Catholic School Board says one class and two cohorts at Prince of Peace are closed, but the school remains open. Ten classes at Franco-Cité are in isolation and two classes at Saint François d'Assise are in isolation. This brings the total number of schools in Ottawa experiencing a current COVID-19 outbreak to 11.
OTTAWA -- Four more schools in Ottawa are in outbreak status, according to Ottawa Public Health.
In Tuesday's daily COVID-19 dashboard update, OPH said the following four schools have COVID-19 outbreaks:
École élémentaire Catholique Saint François d'Assise (2 staff cases)
École secondaire Catholique Franco-Cité (7 cases among staff and students)
École élémentaire Catholique Horizon-Jeunesse (6 student cases, 1 staff case)
Prince of Peace Catholic School (4 student cases)
According to the Conseil des écoles catholiques du Centre-Est (CECCE), only Horizon-Jeunesse is closed as a result of the outbreaks. Ten classes at Franco-Cité are in isolation and two classes at Saint François d'Assise are in isolation.
The Ottawa Catholic School Board says one class and two cohorts at Prince of Peace are closed, but the school remains open.
This brings the total number of schools in Ottawa experiencing a current COVID-19 outbreak to 11.
They are:
Abraar Elementary School
Assumption School
École élémentaire Catholique Horizon-Jeunesse (NEW)
École élémentaire Catholique Montfort
École élémentaire Catholique Sainte-Kateri
École élémentaire Catholique Saint François d'Assise (NEW)
École élémentaire publique Seraphin Marion
École secondaire Catholique Franco-Cité (NEW)
Lester B. Pearson Catholic High School
Lycée Claudel private school
Prince of Peace Catholic School (NEW)
Outbreaks at four schools—Monsignor Paul Baxter Catholic School, École secondaire publique Louis-Riel, Collège catholique Franco-Ouest, and Gabrielle Roy Public School—have ended.
https://ottawa.ctvnews.ca/covid-19-outbreaks-declared-at-four-more-ottawa-schools-1.5134743

United States - Coronavirus Disease 2019 (COVID-19) - Communication Resources (Official and Media)

Travel during the COVID-19 Pandemic
Source: US CDC

Updated Oct. 6, 2020
On This Page

Travel increases your chance of getting and spreading COVID-19. **Staying home is the best way to protect yourself and others from COVID-19.**
You can get COVID-19 during your travels. You may feel well and not have any symptoms, but you can still spread COVID-19 to others. You and your travel companions (including children) may spread COVID-19 to other people including your family, friends, and community for 14 days after you were exposed to the virus.
Don't travel if you are sick or if you have been around someone with COVID-19 in the past 14 days.
Don't travel with someone who is sick.
Holiday Travel
Find out how to keep yourself and your family safer when you celebrate fall and winter holidays.
If you are planning to travel for an upcoming holiday, see CDC's information about Holiday Celebrations.
Before You Travel
Before you travel, consider the following:

- **Is COVID-19 spreading at your destination?**
  The more cases at your destination, the more likely you are to get infected during travel and spread the virus to others when you return.
- Check Each State's Cases in the Last 7 Days
- Travel Recommendations for Destinations Around the World
- **Do you live with someone who might be at increased risk for severe illness from COVID-19?**
  If you get infected while traveling, you can spread the virus to loved ones when you return, even if you don't have symptoms.
- **Are you at increased risk for severe illness from COVID-19?**
  Anyone can get very ill from the virus that causes COVID-19, but older adults and people of any age with certain underlying medical conditions are at increased risk for severe illness from COVID-19.
- **Does your destination have requirements or restrictions for travelers?**
  Some state, local, and territorial governments have requirements, such as requiring people to wear masks and requiring those who recently traveled to stay home for up to 14 days. Check state, territorial, tribal and local public health websites for information before you travel. If you are traveling internationally, check the destination's Office of Foreign Affairs or Ministry of Health or the US Department of State, Bureau of Consular Affairs, Country Information pageexternal icon for details about entry requirements and restrictions for arriving travelers, such as mandatory testing or quarantine.

If You Travel
During your trip, take steps to protect yourself and others from COVID-19:

- Wear a mask to keep your nose and mouth covered when in public settings.
- Avoid close contact by staying at least 6 feet apart (about 2 arms' length) from anyone who is not from your household.
- Wash your hands often or use hand sanitizer (with at least 60% alcohol).
- Avoid contact with anyone who is sick.
- Avoid touching your eyes, nose, and mouth.

Traveling Abroad? Check CDC's COVID-19 Travel Recommendations by Destination before planning your trip.
Considerations for Types of Travel

Travel increases your chances of getting and spreading COVID-19. Your chances of getting COVID-19 while traveling also depend on whether you and those around you take steps to protect yourself and others, such as wearing masks and staying 6 feet away from people outside your household (social distancing). Airports, bus stations, train stations, and rest stops are all places travelers can be exposed to the virus in the air and on surfaces. These are also places where it can be hard to social distance. In general, the longer you are around a person with COVID-19, the more likely you are to get infected.

Air travel

Air travel requires spending time in security lines and airport terminals, which can bring you in close contact with other people and frequently touched surfaces. Most viruses and other germs do not spread easily on flights because of how air circulates and is filtered on airplanes. However, social distancing is difficult on crowded flights, and sitting within 6 feet of others, sometimes for hours, may increase your risk of getting COVID-19.

Also consider how you get to and from the airport, as public transportation and ridesharing can increase your chances of being exposed to the virus.

Bus or train travel

Traveling on buses and trains for any length of time can involve sitting or standing within 6 feet of others, which may increase your risk of getting COVID-19. If you choose to travel by bus or train, learn what you can do to protect yourself on public transportation.

Car travel

Making stops along the way for gas, food, or bathroom breaks can put you and your traveling companions in close contact with other people and frequently-touched surfaces.

RV travel

You may have to stop less often for food or bathroom breaks, but RV travel usually means staying at RV parks overnight and getting gas and supplies at other public places. These stops may put you and those with you in the RV in close contact with others.

Learn more about how to protect yourself from COVID-19 on different types of transportation

Know When to Delay your Travel to Avoid Spreading COVID-19

People who are sick, have recently tested positive for the virus that causes COVID-19, or have been exposed to a person with COVID-19 should delay travel. Learn when and for how long to delay travel to avoid spreading COVID-19.

How Are Companies Protecting Customers from COVID-19?

When planning travel, you may want to check companies' websites to see what they are doing to protect customers from COVID-19. Things to look for include:

- Requiring people to wear a mask
- Promoting social distancing
- Using online or contactless reservations and check-in
- Using contactless payment
- Enhanced cleaning procedures

Tips to avoid getting and spreading COVID-19 in common travel situations:

In public:

- Wear a mask in public settings.
- Stay at least 6 feet (about 2 arms' length) from anyone who is not from your household.

Bathrooms and rest stops:

- Wash your hands with soap and water for at least 20 seconds after using the bathroom and after you have been in a public place.
- If soap and water are not available, use a hand sanitizer that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry.

Getting gas:

- Use disinfecting wipes on handles and buttons at the gas pumps before you touch them (if available).
- After fueling, use a hand sanitizer with at least 60% alcohol. When you get to your destination, wash your hands with soap and water for at least 20 seconds.

Hotels and accommodations:

- See advice for traveling overnight.

Food stops:

- The safest option is to bring your own food. If you don't bring your own food, use drive-through, delivery, take-out, and curb-side pick-up options.

Anticipate Your Travel Needs

- Bring a mask to wear in public places.
- Pack hand sanitizer with at least 60% alcohol. Keep this within reach.
- Bring enough of your medicine to last you for the entire trip.
- Pack food and water in case restaurants and stores are closed, or if drive-through, take-out, and outdoor-dining options aren't available.
- If you are considering cleaning your travel lodgings, see CDC's guidance on how to clean and disinfect.

Check Travel Restrictions

State, local, and territorial governments may have travel restrictions in place, including testing requirements, stay-at-home orders, and quarantine requirements upon arrival. Follow state, local, and territorial travel restrictions. For up-to-date information and travel guidance, check the state, territorial, tribal and local health department where you are, along your route, and where you are going.

Prepare to be flexible during your trip as restrictions and policies may change during your travel.

If traveling internationally or across international borders, check with the destination's Office of Foreign Affairs or Ministry of Health or the US Department of State, Bureau of Consular Affairs, Country Information pageexternal icon for details about entry requirements and restrictions for arriving travelers, such as mandatory testing or quarantine. Local policies at your destination may require you to be tested for COVID-19 before you are allowed to enter the country. If you test positive on arrival, you may be required to isolate for a period of time. You may even be prevented from returning to the United States, as scheduled.

After You Travel

You may have been exposed to COVID-19 on your travels. You may feel well and not have any symptoms, but you can be contagious without symptoms and spread the virus to others. You and your travel companions (including children) pose a risk to your family, friends, and community for 14 days after you were exposed to the virus. Regardless of where you traveled or what you did during your trip, take these actions to protect others from getting sick after you return:

- When around others, stay at least 6 feet (about 2 arms' length) from other people who are not from your household. It is important to do this everywhere, both indoors and outdoors.
- Wear a mask to keep your nose and mouth covered when you are outside of your home.
- Wash your hands often or use hand sanitizer (with at least 60% alcohol).
- Watch your health and look for symptoms of COVID-19. Take your temperature if you feel sick.

Follow state, territorial, tribal and local recommendations or requirements after travel.

Higher Risk Activities

Some types of travel and activities can put you at higher risk for exposure to COVID-19 (see list below). If you participated in higher risk activities or think that you may have been exposed before or during your trip, take extra precautions (in addition the ones listed above) to protect others for 14 days after you arrive:

- Stay home as much as possible.
- Avoid being around people at increased risk for severe illness from COVID-19.
- Consider getting tested for COVID-19.

What activities are considered higher risk?

Here are examples of activities and situations that can increase your risk of exposure to COVID-19:

- Being in an area that is experiencing high levels of COVID-19, including destinations with a Level 3 Travel Health Notice. You can check the Travel Health Notices for recommendations for places you have traveled, including foreign countries and U.S. territories. You can also check states, counties, and cities to determine if these areas are experiencing high levels of COVID-19.
- Going to a large social gathering like a wedding, funeral, or party.
- Attending a mass gathering like a sporting event, concert, or parade.
- Being in crowds — for example, in restaurants, bars, airports, bus and train stations, or movie theaters.
- Traveling on a cruise ship or river boat.

If you know that you were exposed to someone with COVID-19, postpone further travel. If you get any symptoms of COVID-19, see What to Do If You Are Sick.

https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html

United States
U.S. FDA asks COVID-19 vaccine developers for two months follow-up data
Source: financialpost.com
Unique ID: 1007985424

The agency's advice was released on Tuesday as part of documents posted ahead of a meeting of its expert panel later this month to discuss coronavirus vaccines under development.
The U.S. Food and Drug Administration told coronavirus vaccine developers that it would need at least two months of data after a full vaccination regime to review applications for emergency use authorization of an experimental vaccine.
The agency's advice was released on Tuesday as part of documents posted ahead of a meeting of its expert panel later this month to discuss coronavirus vaccines under development. (Reporting by Manas Mishra in Bengaluru; Editing by Shounak Dasgupta).
https://financialpost.com/pmn/business-pmn/u-s-fda-asks-covid-19-vaccine-developers-for-two-months-follow-up-data

United States
NIH RADx initiative advances six new COVID-19 testing technologies
Source: National Institutes of Health (NIH)

Tuesday, October 6, 2020

The National Institutes of Health, working in collaboration with the Biomedical Advanced Research and Development Authority (BARDA), today announced a third round of contract awards for scale-up and manufacturing of new COVID-19 testing technologies. The six new Rapid Acceleration of Diagnostics (RADx) initiative contracts total $98.35 million for point-of-care and other novel test approaches that provide new modes of sample collection, processing and return of results. Innovations in these new technologies include integration with smart devices, mobile-lab processing that can be deployed to COVID-19 hot spots, and test results available within minutes.

These awards are part of the RADx Tech program, focused on rapidly advancing early testing technologies. RADx Tech and the RADx Advanced Technology Platforms (RADx-ATP) —the latter for late-stage scale-up projects— are now supporting a combined portfolio of 22 companies for a total of $476.4 million in manufacturing expansion contracts. These six additional technologies are expected to add as many as 500,000 tests per day to the U.S. capacity by the end of 2020 and 1 million tests per day by early 2021. Combined with previous contracts announced in July and September, RADx Tech and RADx-ATP contracts are expected to increase test capacity by 2.7 million tests per day by the end of 2020.

"Since launching in April, the NIH RADx initiative has moved swiftly to facilitate critical expansion of early and late-stage testing technologies as well as research to remove barriers to testing for underserved and vulnerable populations," said NIH Director Francis S. Collins, M.D., Ph.D. "Each of the technologies emerging from the RADx initiative will play a critical role in extending accessibility to testing in diverse settings."

The latest group of testing technologies have been optimized and assessed within the NIH RADx Tech development pipeline and have met the rigorous criteria for advancement. Factors such as speed, accuracy, cost and accessibility are key considerations for RADx support. The RADx initiative provides financial support and expertise to help companies reach milestones for U.S. Food and Drug Administration authorization, scale-up and commercialization.

"The current round of awards support five technologies that can be delivered to the point of care and a powerful laboratory test," said Bruce J. Tromberg, Ph.D., director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) and lead for RADx Tech, one of four programs of the NIH RADx

initiative. “The technologies include an antigen test that provides results in 15 minutes, a viral RNA test deployed in mobile vans that can travel to COVID hotspots and tests that require only saliva, nasal swabs or blood from a finger prick.”

BARDA, part of the Office of the Assistant Secretary for Preparedness and Response within the U.S. Department of Health and Human Services, provided the funding for these RADx Tech contracts from emergency supplemental appropriations to the Public Health and Social Services Emergency Fund.

BARDA has contributed substantially to the nation’s COVID testing capacity with development support of 30 SARS-COV-2 diagnostic tests since March, 15 of which have achieved FDA emergency use authorization (EUA). Five of the 30 tests can distinguish between influenza and SARS-COV-2, the virus that causes COVID-19, from the same sample, and two of those have achieved EUA. To date, BARDA’s industry partners have shipped more than 45 million tests to healthcare providers across the country.

“Through the RADx initiative, we are expanding on our long-standing partnership with NIH to bring essential technology to the American people in the fight against COVID-19,” said BARDA Acting Director Gary L. Disbrow, Ph.D. “Our staff at BARDA is lending our expertise and experience in advanced development, manufacturing and scale up to help make as many accurate, fast tests available as we can as quickly as possible.”

The following companies have achieved key RADx Tech milestones and will receive support for manufacturing and scale up:

Viral Antigen detection

Ellume USA LLC, Valencia, California

Two unique test cartridges contain a single-use, digital fluorescent immunoassay antigen test that returns accurate results in 15 minutes or less. One cartridge testing nasal swabs can be read out on two platforms by healthcare professionals, at the point of care or in laboratory settings for higher throughput. A second cartridge is being developed for home use with a self-administered nasal swab.

Luminostics, Inc., Milpitas, California

A rapid, smartphone-readout, antigen immunoassay that uses glow-in-the-dark nanomaterials to sensitively and specifically detect SARS-CoV-2 from shallow nasal swabs in 30 minutes or less, first for point-of-care use and later for home use.

Quanterix, Billerica, Massachusetts

A laboratory antigen test with ultra-sensitive single-molecule immunoassay technology to enable detection from a variety of sample types including nasopharyngeal, saliva or self-acquired blood from a finger prick. Sample collection, transport, and processing will occur within 24-48 hours using existing sample collection logistics infrastructure through a network of centralized labs.

Viral RNA detection

Flambeau Diagnostics, Madison, Wisconsin

A lab module that can be deployed in a mobile van to screen asymptomatic individuals to detect SARS-CoV-2 at low viral levels in saliva samples, returning results in as little as one hour. The system can serve employers, schools and underserved populations. It uses new extraction technology to purify and concentrate viral RNA reliably and quickly.

Ubiquitome, Auckland, New Zealand

A battery-operated, mobile RT-PCR device that detects viral RNA with high accuracy in 40 minutes and reports results via its proprietary iPhone app. It offers high throughput and could be much lower cost than lab-based RT-PCR tests. The device is targeted for use in rural and metropolitan hospitals and mobile labs.
Visby Medical, San Jose, California
A palm-sized, single-use RT-PCR device that detects viral RNA with highly accurate results at the point of care in 30 minutes. The device was designed to be used by a person with minimal skills. This novel, versatile technology platform can also be adapted to provide simple, rapid tests for other diseases such as chlamydia, gonorrhea, and influenza.

About the Rapid Acceleration of Diagnostics (RADx SM) initiative: The RADx initiative was launched on April 29, 2020, to speed innovation in the development, commercialization, and implementation of technologies for COVID-19 testing. The initiative has four programs: RADx Tech, RADx Advanced Technology Platforms, RADx Underserved Populations and RADx Radical. It leverages the existing NIH Point-of-Care Technology Research Network. The RADx initiative partners with federal agencies, including the Office of the Assistant Secretary of Health, Department of Defense, the Biomedical Advanced Research and Development Authority, and U.S. Food and Drug Administration. Learn more about the RADx initiative and its programs: https://www.nih.gov/radx.

About HHS, ASPR, and BARDA: HHS works to enhance and protect the health and well-being of all Americans, providing for effective health and human services and fostering advances in medicine, public health, and social services. The mission of ASPR is to save lives and protect Americans from 21st century health security threats. Within ASPR, BARDA invests in the innovation, advanced research and development, acquisition, and manufacturing of medical countermeasures – vaccines, drugs, therapeutics, diagnostic tools, and non-pharmaceutical products needed to combat health security threats. To date, 55 BARDA-supported products have achieved FDA approval, licensure or clearance. For more on BARDA's portfolio for COVID-19 diagnostics, vaccines and treatments and about partnering with BARDA, visit medicalcountermeasures.gov (link is external). To learn more about federal support for the all-of-America COVID-19 response, visit coronavirus.gov (link is external).

About the National Institute of Biomedical Imaging and Bioengineering (NIBIB): NIBIB's mission is to improve health by leading the development and accelerating the application of biomedical technologies. The Institute is committed to integrating the physical and engineering sciences with the life sciences to advance basic research and medical care. NIBIB supports emerging technology research and development within its internal laboratories and through grants, collaborations, and training. More information is available at the NIBIB website: https://www.nibib.nih.gov.
https://www.nih.gov/news-events/news-releases/nih-radx-initiative-advances-six-new-covid-19-testing-technologies

International - Coronavirus disease (COVID-19) Outbreak and Outcomes (Media)

China

China in talks with WHO over assessing its COVID-19 vaccines for global use
ID: 1007988179
Source: Reuters

OCTOBER 6, 2020
SINGAPORE (Reuters) - China is in talks to have its locally-produced COVID-19 vaccines assessed by the World Health Organization, as a step toward making them available for international use, a WHO official said on Tuesday.
Hundreds of thousands of essential workers and other groups considered at high risk in China have been given locally-developed vaccines even as clinical trials had not been fully completed, raising safety concerns among experts.
Socorro Escalate, WHO's coordinator for essential medicines and health technologies in the Western Pacific region, told a news conference conducted online that China had held preliminary discussions with

WHO to have its vaccines included in a list for emergency use.

The WHO's emergency use listing procedure allows unlicensed vaccines and treatments to be assessed to expedite their availability in public health emergencies. This helps WHO member states and UN procurement agencies to determine the acceptability of the vaccines.
"Potentially through this emergency use listing the quality and safety of these vaccines and efficacy could be assessed, and then this could be made available for our licensees," Escalante said.
China has at least four experimental vaccines in the final stage of clinical trials - two are developed by state-backed China National Biotec Group (CNBG), and the remaining two are from Sinovac Biotech SVA.O and CanSino Biologics 6185.HK688185.SS respectively.
They are tested in such countries as Pakistan, Indonesia, Brazil, Russia and the United Arab Emirates.
Last month, the UAE authorized the emergency use of a CNBG vaccine, the first international emergency clearance for one of China's vaccines, just six weeks after human trials began in the Gulf Arab state.

Philippines President Rodrigo Duterte said last month it would prioritise China and Russia in his country's global shopping for a vaccine.
https://www.reuters.com/article/us-health-coronavirus-who-china-idUSKBN26R19B

UAE

UAE first country where number of COVID-19 tests exceeded population: Official Spokesman
Source: UrduPoint News
ID: 1007988045

ABU DHABI, (UrduPoint / Pakistan Point News / WAM - 07th Oct, 2020) The UAE has become the first country in the world where the number of coronavirus, COVID-19, tests exceeded the total population, with the number of tests performed by national health establishments totalling over 10 million.
This statement was made during the regular media briefing held by the UAE Government to present the latest health developments and answer questions and inquiries concerning the public.
Dr. Omar Abdulrahman Al Hammadi, Official Spokesman of the UAE Government, highlighted the statistics and figures monitored by relevant authorities from 30th September to 6th October, 2020.
Al Hammadi announced that this period saw 720,802 tests conducted around the country, an eight percent increase compared to the previous week, which revealed a 16 percent increase in confirmed infections amounting to 7,704. Accordingly, the rate of positive tests accounted for 1 percent of the total, which is a similar rate to the previous week.
He also noted that the period under review witnessed an increase in recoveries by 23 percent compared to the previous week, numbering 8,018 while adding that the number of deaths increased to 19, a rise of 73 percent compared to the previous week.
Al Hammadi then highlighted the UAE's keenness to continue its achievements in various key sectors, including the education sector, considering its major importance. The education sector managed to achieve record success over a short period of time, due to the readiness of the educational infrastructure of national institutions and the adoption of the latest technologies to ensure the continuity of the education process, along with the implementation of strict precautionary measures to guarantee the safety of students and employees of educational establishments, he further added.
He pointed out that the current academic year is witnessing the continued operation of 1,025 schools around the country under the framework of the remote learning system, accounting for some 82.86 percent of the total number of schools, while 212 schools are operating within the framework of the in-person learning system, representing 17.14 percent of the total.
Al Hammadi explained that the number of school students taking part in the in-class learning system is 201,797, or 17.28 percent of the total number of student population in the country.
During the media briefing, Al Hammadi stressed that the volunteers taking part in the coronavirus vaccine trial should adhere to relevant preventive procedures, including wearing facemasks and maintaining social distancing.
"Taking the trial vaccine doesn't necessarily means a person is far from infection of the virus," he explained.
He stressed that after taking the second dose of the vaccine, volunteers will need a period of up to four

weeks to enhance their immunity, adding that even after this period, their immune systems will only protect them, not other people and their families and colleagues. "Therefore, it is essential for them to continue adhering to the precautionary measures," he added.
Al Hammadi advised the volunteers and other people to continue adhering to the precautionary measures to protect everyone's health and safety.
He replied to a question on the importance of taking the seasonal influenza vaccine and the risks of catching seasonal influenza and COVID-19 at the same time, especially with the approach of winter. He responded that catching seasonal influenza and COVID-19 will pose risks to patients, especially given the difficulty in differentiating between the two conditions.
Everyone should help the national health sector by taking the influenza vaccine, which is available at all health centres, Al Hammadi added, highlighting the fact that influenza may only cause mild symptoms in some categories of people, but elderly people and people with chronic diseases may experience serious reactions.
He also noted that influenza is similar to the coronavirus in terms of transmission, most notably through inhaling droplets from coughs and sneezes and touching contaminated surfaces then touching the mouth, nose or eyes.
Al Hammadi revealed that precautions against influenza and the coronavirus infections are the same. These are wearing facemasks, applying social distancing, sanitising hands and refraining from exposure to patients. The difference between the two is the availability of a safe and approved vaccine.
The influenza vaccine does not protect people from COVID-19, but it protects them from catching influenza that may lead to serious complications, he further said while pointing out that the importance of taking the influenza vaccine increases for those suffering from complications and those with a higher risk of transmitting the disease to others, such as medical workers, children below the age of five, smokers, pregnant women and elderly people above 65 years of age, as well as people suffering from diabetes and cardiac, lung, liver and kidney diseases.
https://www.urdupoint.com/en/middle-east/uae-first-country-where-number-of-covid-19-te-1049775.html

European countries face shortages of COVID-19 drug remdesivir
Source: Financial Post
GPHIN ID: 1007985418

AMSTERDAM/WARSAW/BRUSSELS — European countries are facing shortages of COVID-19 drug remdesivir because limited supplies are running out, officials said, with cases surging and the United States having bought up most of drugmaker Gilead's output.
In July, the 27 European Union countries and Britain, with a combined population of 500 million, secured doses to treat about 30,000 patients. The United States signed a deal for more than 500,000 courses of treatment, accounting for most of Gilead's output through September.
"Remdesivir has run out," Dutch Health Ministry spokesman Martijn Janssen told Reuters, adding however that new deliveries were expected shortly.
The antiviral drug has been shown to shorten hospital recovery time in severe cases of COVID-19. Remdesivir and the steroid dexamethasone are the only drugs authorized in Europe to treat COVID-19. Both have been given to U.S. President Donald Trump, who is also receiving an experimental antibody cocktail.
Hospitalisations across Europe have been rapidly increasing, although in most countries still far below levels of the spring.
"Due to the increased hospital admissions, the demand for remdesivir is increasing rapidly," the Dutch spokesman said.

https://financialpost.com/pmn/business-pmn/european-countries-face-shortages-of-covid-19-drug-remdesivir

WHO
19 vaccine may be ready by year-end - WHO's Tedros
Source: **financialpost.com**
Unique ID: 1007985420

Nine experimental vaccines are in the pipeline of the WHO-led COVAX global vaccine facility that aims to distribute 2 billion doses by the end of 2021. GENEVA — A vaccine against COVID-19 may be ready by year-end, the head of the World Health Organization (WHO) said on Tuesday, without elaborating. WHO Director-General Tedros Adhanom Ghebreyesus called for solidarity and political commitment by all leaders to ensure equal distribution of vaccines when they become available.
GENEVA — A vaccine against COVID-19 may be ready by year-end, the head of the World Health Organization (WHO) said on Tuesday, without elaborating.
WHO Director-General Tedros Adhanom Ghebreyesus called for solidarity and political commitment by all leaders to ensure equal distribution of vaccines when they become available. “We will need vaccines and there is hope that by the end of this year we may have a vaccine. There is hope,” Tedros said in closing remarks to the WHO’s Executive Board meeting that examined the global response to the pandemic.
The EU health regulator has launched a real-time review of a COVID-19 vaccine developed by U.S. drugmaker Pfizer and Germany’s BioNTech, it said on Tuesday, following a similar announcement for rival AstraZeneca’s jab last week. The announcement by the European Medicines Agency (EMA) could speed up the process of approving a successful vaccine in the bloc.
Nine experimental vaccines are in the pipeline of the WHO-led COVAX global vaccine facility that aims to distribute 2 billion doses by the end of 2021.
So far some 168 countries have joined the COVAX facility, but neither China, the United States nor Russia are among them. The Trump administration has said it is relying instead on bilateral deals to secure supplies from vaccine makers.
“Especially for the vaccines and other products which are in the pipeline, the most important tool is political commitment from our leaders especially in the equitable distribution of the vaccines,” Tedros said. “We need each other, we need solidarity and we need to use all the energy we have to fight the virus,” he said. (Reporting by Stephanie Nebehay in Geneva; Editing by Michael Shields and Alexandra Hudson)
https://financialpost.com/pmn/business-pmn/19-vaccine-may-be-ready-by-year-end-whos-tedros-2

Studies Related to Coronavirus disease (COVID -19) Outbreak (Media)

Study: HIV drug of no benefit to hospitalized COVID patients
Source: CIDRAP
ID: 1007988416

The combination drug lopinavir-ritonavir is not recommended for hospitalized COVID-19 patients because it doesn't significantly shorten hospital stay or lower the risk of needing mechanical ventilation or of dying, according to a study yesterday in The Lancet.

The ongoing University of Oxford–sponsored Randomised Evaluation of COVid-19 thERapY (RECOVERY) trial involving coronavirus patients at 176 hospitals in the United Kingdom is the first known large, randomized, controlled trial to assess the effectiveness of lopinavir-ritonavir for this indication.
The antiviral drug combination, approved by the US Food and Drug Administration to treat HIV/AIDS, has been recommended as a first- or second-line treatment for COVID-19 in many countries on the basis of in vitro activity and preclinical and observational studies. While a 2004 trial suggested that lopinavir-ritonavir lowered the risk of poor outcomes and high viral loads in patients with severe acute respiratory syndrome (SARS), which is also caused by a coronavirus, subsequent studies produced mixed results.

No significant differences in outcomes
In the University of Oxford trial, patients were randomly assigned to either usual care or usual care plus 400 milligrams (mg) of lopinavir and 100 mg of ritonavir by mouth twice a day for 10 days or until release from the hospital.
From Mar 19 to Jun 29, 374 of 1,616 patients (23%) receiving lopinavir-ritonavir and 767 of 3,424 patients (22%) receiving usual care died within 28 days (rate ratio, 1.03). The difference in time to hospital release was a median of 11 days for both groups, and the proportions of both groups released from the hospital within 28 days were also similar (69% of the lopinavir-ritonavir group vs 70% of the usual care group; rate

ratio, 0.98).
Neither was there a significant difference in the proportions progressing to require mechanical ventilation (10% of the lopinavir-ritonavir group vs 9% of the usual care group) or dying of their infections (risk ratio, 1.09). Both groups had similar proportions of patients requiring dialysis within 28 days when they didn't need it previously (66 of 1,588 [4%] of patients in the lopinavir-ritonavir group vs 140 of 3,348 [4%] of patients in the usual care group; risk ratio, 0.99).
"These results were consistent across subgroups of age, sex, ethnicity, duration of symptoms before randomisation, amount of respiratory support at randomisation, and baseline predicted risk of death at randomisation," the authors wrote.
Care guidelines need revisiting
Clinical care guidelines that recommend lopinavir-ritonavir to treat hospitalized coronavirus patients should be updated to reflect the study findings, the researchers said.
"Since our preliminary results were made public on June 29, 2020, [the World Health Organization] has halted the lopinavir–ritonavir monotherapy and the lopinavir–ritonavir plus interferon beta combination groups of the SOLIDARITY trial because the interim results are in line with those presented here—lopinavir-ritonavir does not improve clinical outcomes for patients admitted to hospital with COVID-19," the researchers said.

Lopinavir-ritonavir was one of a number of therapies being studied as part of the RECOVERY trial. The lopinavir-ritonavir treatment arm was stopped early, along with those of the antimalarial drug hydroxychloroquine and the corticosteroid dexamethasone, after showing no benefit. Trials of the antibiotic azithromycin, the immunosuppressive drug tocilizumab, convalescent plasma (which contains antibodies from recovered COVID-19 patients), and Regeneron's monoclonal antibody cocktail REGN-CoV2 are ongoing.

In a commentary in the same journal, Bin Cao, MD, of the National Center for Respiratory Medicine of China and Japan, and Frederick Hayden, MD, of the University of Virginia in Charlottesville, said that although the study findings rule out the use of lopinavir-ritonavir in hospitalized patients with COVID-19, the use of more potent antiviral drugs given early to treat mild cases or prevent infection in high-risk populations after exposure remains a possibility.
But using antiviral drugs alone for patients with moderate or severe COVID-19 is unlikely to be sufficient. "The evaluation of efficacy and safety of combination therapy with antivirals and immunomodulators for severe COVID-19 should be a priority for ongoing and future clinical trials," Cao and Hayden said.
https://www.cidrap.umn.edu/news-perspective/2020/10/study-hiv-drug-no-benefit-hospitalized-covid-patients

New tool ranks COVID-19 responses of 19 hard-hit nations
ID: 1007988180
Source: CIDRAP

Oct 06, 2020
The United States ranks ninth out of 19 based on a newly developed tool to evaluate public perception of different countries' responses to the COVID-19 pandemic, according to a study published today in *PLOS One*. The 10-item COVID-SCORE tool, created and validated by the Barcelona Institute for Global Health, the City University of New York (CUNY), and other international organizations, was used in mid-June to survey the attitudes of 13,426 randomly selected participants in 19 countries heavily affected by the pandemic on key issues such as governmental messaging, access to health services, and social welfare.

Mean country score ranged from 35.76 out of 100 points for Ecuador to 80.48 for China. In general, Asian countries garnered better scores than Latin American and European nations. Country scores were strongly tied to the level of people's public trust in their government, with higher scores reflecting higher levels of trust. Lower scores were associated with higher COVID-19 death rates or proportion of participants directly affected by the virus, in addition to low levels of trust.

Inter-, intra-country variation
The United States' composite score was 50.57, with 773 respondents. At 3.16 out of 5, the country's income, food, and shelter aid was the highest-rated facet of its pandemic response, while it was among the lowest in most countries. Notably, the poll was administered soon after US government stimulus checks were distributed in the spring.

However, at 3.03 of 5, the United States ranked 17th out of 19 on the topic of government cooperation with other nations and global agencies such as the World Health Organization, while this facet received the highest score across all countries (3.53). This finding is not surprising, given that the Trump administration has pulled its financial support of the organization.

In contrast, at 3.46 out of 5, Spain was rated highest on its international cooperation; its lowest score (2.09) was for access to free, reliable COVID-19 testing in people with symptoms. Across all countries, access to mental healthcare received the lowest average score: 2.79. Responses ranged most widely in the United States, where similar proportions of participants rated the government pandemic response positively and negatively. US respondents earning more than the monthly median income tended to give the government higher scores than those earning less. Other countries with broad ranges of responses were Brazil, Ecuador, Mexico, Poland, Sweden, and the United Kingdom. Responses were most homogeneous and strongly positive in China and South Korea.

A reflection of trust

While most countries have implemented disease mitigation measures such as business and school closures and movement restrictions, their approach and timing have varied widely. Public compliance with the measures, too, and thus pandemic mitigation, has differed and may reflect trust in government, public health officials, and science, as well as the clarity and consistency of public health messages, the researchers said.

They also remarked that trust is key to gaining public cooperation in fighting the coronavirus and that, conversely, lack of trust is associated with greater rates of mental illness and has been a barrier to seeking healthcare for minority populations.

"Effective control of COVID-19 requires governments and their constituencies to engage in mutually trusting relationships with a shared understanding of what is expected by both sets of actors," the authors wrote.

They added that the COVID-SCORE tool can help public health authorities and other decision makers identify and correct gaps in their country's coronavirus response and track trends in public perception over time. "This tool is easy to implement and can guide researchers and authorities in designing measures to better control the pandemic," coauthor Ayman El-Mohandes, MD, MPH, MSc, MBBCh, dean of the CUNY Graduate School of Public Health and Health Policy, said in a CUNY news release.
https://www.cidrap.umn.edu/news-perspective/2020/10/new-tool-ranks-covid-19-responses-19-hard-hit-nations

Study finds intubation, extubation produce fewer aerosols than a cough
ID: 1007988181
Source: CIDRAP

In a study published today in *Anaesthesia*, researchers measured how many aerosols are produced during intubation and extubation, which have both been considered a high-risk aerosol-generating procedure (AGP) during anesthesia for COVID-19.

Best practices have been to wear high-level personal protective equipment (PPE) and go through extensive operating room cleaning, slowing down operations, but this study found that the AGPs' maximum aerosol production was still less than 25% of the aerosol created by a voluntary cough.

Intubation involves inserting an artificial ventilation tube into the trachea to enhance breathing, and extubation refers to the removal of that tube.

Researchers from the North Bristol NHS Trust and the University of Bristol conducted their tests in ultraclean ventilation operating theaters on non–COVID-19 patients and went through face-mask ventilation, airway suction, repeated attempts of intubation, and extubation to reflect a real clinic setting with providers of varying experience. In all, they measured 19 intubations and 14 extubations.

Using high-resolution environmental monitoring, the scientists found that intubation created one-one thousandth the amount (0.001) of aerosol of a large cough and that extubation, even when accompanied by a weak cough, produced less than 25% of aerosols of a voluntary cough. To reduce the potential risk, the authors suggested that operators use practices to mitigate the patient's involuntary coughing or to simply step away from the face and behind the patient's head during extubation.

Although they concede the study worked off the aerosol/COVID-19 correlation and did not look at SARS-CoV-2 directly, the authors said in a news release, "If we can agree these procedures do not generate aerosols we can reduce the PPE we wear and we can eliminate the major delays that currently exist between one patient leaving the operating room and starting the next case."
https://www.cidrap.umn.edu/news-perspective/2020/10/covid-19-scan-oct-06-2020
https://doi.org/10.1111/anae.15292

Virus threat to animals (study)
Source: The Times
GPHIN ID: 1007983155

Dozens of animal species could be vulnerable to the virus that causes Covid-19, researchers at University College London suggest. They investigated how the spike protein from Sars-Cov-2 could interact with the Ace2 protein it attaches to when it infects people. The study, published in Scientific Reports, found that 26 animals, including pigs, horses and rabbits, may be susceptible to infection.

Canadians divided over whether to let pandemic disrupt Halloween, holidays: Poll
Source: The National Post
GPHIN ID: 1007984451

OTTAWA — Canadians are divided about whether to let the COVID-19 pandemic disrupt their plans for upcoming holidays and seasonal events, a new poll suggests.
The poll, conducted by Leger and the Association for Canadian Studies, comes as COVID-19 cases are surging and public health authorities are pleading with Canadians in places with rising case counts to avoid contact with anyone outside their immediate families or at least to stick to small social circles.
The results suggest that message is only partially getting through.
Respondents with children who went door to door for Halloween last year were closely divided on whether to let them go trick-or-treating again this year, with 52 per cent saying they won't and 48 per cent saying they will.
The poll found sharp regional variations, however. About two-thirds of respondents in Atlantic Canada, which has been relatively untouched by COVID-19's resurgence, said they will let their kids go out. In harder-hit Ontario and Quebec, two-thirds said they won't.
Those kids who do go trick-or-treating will find slimmer pickings, with 49 per cent of respondents nationwide saying they won't open their doors this year to hand out candy.
https://nationalpost.com/pmn/news-pmn/canada-news-pmn/canadians-divided-over-whether-to-let-pandemic-disrupt-halloween-holidays-poll

Moleculin Announces New Antiviral Drug Candidates Demonstrate In Vitro Activity against HIV
Source: PRNewswire
GPHIN ID: 1007984711

HOUSTON, Oct. 6, 2020 /PRNewswire/ -- Moleculin Biotech, Inc., (Nasdaq: MBRX) (Moleculin or the Company), a clinical stage pharmaceutical company with a broad portfolio of drug candidates targeting significant unmet needs in the treatment of tumors and viruses, announced preliminary new findings from its research collaboration with the Rega Institute in Leuven, Belgium, that demonstrate its drug candidates, WP1096 and WP1097, are showing significant in vitro activity in a range of infectious diseases. In addition to activity against SARS-CoV-2, antiviral activity has now been documented for HIV, Zika and Dengue Fever.

WP1096 and its close analog, WP1097, are structurally slightly different agents within the Company's WP1122 portfolio. While the Company is continuing its preclinical development work on WP1122, including in vivo testing for SARS-CoV-2, it has now expanded its infectious disease program to include these two molecules. In addition, the Company continues to drive the clinical development of Annamycin, which is currently being studied for the treatment of relapsed or refractory acute myeloid leukemia, and WP1066, which targets brain tumors, pancreatic cancer and hematologic malignancies.

Walter Klemp, Chairman and CEO of Moleculin, stated, "We recently announced the discovery that these new molecules have significant in vitro activity in SARS-CoV-2 that may be due to mechanistic differences from other molecules in the WP1122 portfolio. Now, we are looking at the possibility that our portfolio of antimetabolites can address a wide range of infectious diseases beyond COVID-19."

Mr. Klemp continued, "In the case of Zika and Dengue Fever, there are no viable therapies, so we think this study garners the potential to involve possible governmental entities to assist in the development of and provide funding for the first ever treatments for these important diseases."

Mr. Klemp concluded, "Even though there is already a $20 billion US market for currently approved treatments for HIV, we believe that there is now a growing concern that drug resistance may begin to put more HIV patients at risk. We believe that our antimetabolites potentially represent an entirely new mechanism of action to the HIV therapeutic line-up. The significance to Moleculin shareholders is that we believe the business opportunity for Moleculin has now potentially gotten much bigger than just COVID-19."

About Moleculin Biotech, Inc.

Moleculin Biotech, Inc. is a clinical stage pharmaceutical company focused on the development of a broad portfolio of oncology drug candidates for the treatment of highly resistant tumors and viruses. The Company's clinical stage drugs are: Annamycin, a Next Generation Anthracycline, designed to avoid multidrug resistance mechanisms with little to no cardiotoxicity being studied for the treatment of relapsed or refractory acute myeloid leukemia, more commonly referred to as AML, WP1066, an Immune/Transcription Modulator capable of inhibiting p-STAT3 and other oncogenic transcription factors while also stimulating a natural immune response, targeting brain tumors, pancreatic cancer and hematologic malignancies, and WP1220, an analog to WP1066, for the topical treatment of cutaneous T-cell lymphoma. Moleculin is also engaged in preclinical development of additional drug candidates, including other Immune/Transcription Modulators, as well as WP1122 and related compounds capable of Metabolism/Glycosylation Inhibition.

For more information about the Company, please visit http://www.moleculin.com.

Forward-Looking Statements

Some of the statements in this release are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995, which involve risks and uncertainties. Forward-looking statements in this press release include, without limitation, the ability of its antimetabolite drug candidates to be shown safe and effective for infectious diseases and the ability of the Company to secure expedited development and funding assistance from governmental entities. Although Moleculin believes that the expectations reflected in such forward-looking statements are reasonable as of the date made, expectations may prove to have been materially different from the results expressed or implied by such forward-looking statements. Moleculin Biotech has attempted to identify forward-looking statements by terminology including "believes," "estimates," "anticipates," "expects," "plans," "projects," "intends," "potential," "may," "could," "might," "will," "should," "approximately" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors, including those discussed under Item 1A. "Risk Factors" in our most recently filed Form 10-K filed with the Securities and Exchange Commission ("SEC") and updated from time to time in our Form 10-Q filings and in our other public filings with the SEC. Any forward-looking statements contained in this release speak

only as of its date. We undertake no obligation to update any forward-looking statements contained in this release to reflect events or circumstances occurring after its date or to reflect the occurrence of unanticipated events.

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Mandatory masks made big impact on Ontario's COVID-19 trajectory: study
Source: National Post
GPHIN ID: 1007984717

Mask mandates in Ontario during the COVID-19 pandemic may have reduced new weekly cases by as much as 25 per cent, a team of economists from Simon Fraser University found.

The researchers also found that mask mandates dramatically increased mask usage in Canada, with self-reported mask-wearing jumping by 30 percentage points after mandates were introduced. Like almost all non-pharmaceutical measures to fight the pandemic, mask mandates hinge entirely on public compliance.

The economists also found that a nationwide mask mandate instituted in mid-July would have reduced weekly cases by 25 to 40 per cent by mid-August. That would have resulted in between 700 and 1,100 fewer weekly cases in Canada.

The new data comes as masks have become an unlikely flashpoint for controversy during the COVID-19 pandemic. Earlier in the year, public health experts gave conflicting recommendations about mask-wearing by initially warning that they could cause a false sense of security. As the public health advice shifted toward mask-wearing, protests popped up around the world arguing that mask mandates were an abrogation of basic rights.

Article content continued

The research was released Monday as a working paper at the National Bureau of Economic Research, before peer review, and expands on similar research being conducted in the United States and Germany.

Due to its large population of more than 15 million people and 34 public health units, which introduced mask mandates at different times, Ontario is a particularly good place to study the impact of masks while controlling for other factors.

Mask mandates were first introduced in the province in the health unit around Guelph on June 12 and last in the Northwestern public health unit on August 17. The only health unit without a mask mandate in Ontario is Lambton although Sarnia, its largest city, has its own mandate.

The study also finds some less reliable, “noisy,” data about the effects of other measures, like limiting businesses and closing workplaces, on reducing COVID-19 cases. That means that as these other measures are lifted, they can cancel out the effects of mask-wearing.

“Reduced restrictions and the associated increase in business or workplace activity and gathering or school re-opening can offset, in whole or in part, the estimated effect of mask mandates on COVID-19 case growth,” the paper reads.

Due to the limited time available to study the fast-moving pandemic, the researchers can’t say for sure that the effect lasts longer than a few weeks. But at the very least, they found that masks can be “a powerful tool” for temporarily reducing the spread of COVID-19.

The paper builds on work by two other research papers on the topic. A study on mask-wearing by employees in public-facing businesses found that these kind of mandates are associated with a 10 per cent decrease in the weekly growth rate of COVID-19 cases.

Another study on mask mandates in Germany found that these measures caused a 40 per cent decline in the weekly growth rate of COVID-19 cases.

https://nationalpost.com/news/canada/mandatory-masks-made-big-impact-on-ontarios-covid-19-trajectory-study

Canadian researchers begin clinical trials of tuberculosis vaccine for COVID-19.
Source: CTV News
GPHIN ID: 1007985324

TORONTO -- Researchers in Canada are hoping a century-old vaccine designed to treat tuberculosis can become the key to fighting off a COVID-19 infection.
The University Health Network in Toronto announced on Monday that it has begun the first Canadian trial of the Bacillus Calmette–Guerin (BCG) vaccine on more than 3,600 front-line workers in the area, including medical staff, paramedics, police officers and firefighters.
“We felt that this first line was clearly the kind of group of people that we would try to protect given the increased exposure,” Dr. Alexandre Zlotta, a researcher at the University Health Network, told CTV News. “We hope, of course, that the vaccinated individuals will have less infections… (and) protect themselves but ultimately also protect their loved ones.”
The BCG vaccine was first developed in 1921 and is typically used as a tuberculosis vaccine in countries with high rates of infection, but doctors recently noticed that many countries with high BCG vaccination rates had shown lower COVID-19 rates.
“Many studies have been performed in the past where it was shown that vaccinated people were more resistant against viral infections,” Zlotta said. “What has happened is that people have realized that people who got the vaccine against tuberculosis had their immune system boosted to the point that potentially they could fight off infections which are completely unrelated.”
The vaccine being used for this study is a genetically modified version of the original BCG vaccine made in Germany. Participants will be given either the vaccine or a placebo and will be monitored over the next seven months during the second wave of COVID-19 in Canada.
Sean O’Connell, who’s been a firefighter in Toronto for the past 18 years, was among the first participants to receive an injection late last week.
“If this vaccine is effective, it'll allow me and hopefully other people to be confident that by taking this vaccine, it might not cure the disease, but it'll definitely lessen the effects on people and their lives,” he said.
There are currently at least a dozen similar trials internationally, including in Australia, Europe and Mexico.
One study out of Greece found that the BCG vaccine led to 80 per cent fewer serious viral respiratory infections in the following year after being administered. The study was completed prior to the COVID-19 pandemic, however.
Dr. Madhukar Pai, director of the McGill International Tuberculosis Centre at McGill University, believes one of the key questions to be answered is whether the BCG vaccine has a non-specific impact on the coronavirus, even if it’s not 100 per cent successful.
“In some ways, we know that it's safe because millions of people have received it,” he said. “Even at 50 per cent protective, it's like a mask, you add it to the list of repertoire of things we are all trying to do.”
There are plenty of reasons to be hopeful about the vaccine as well. Researchers say it could be implemented widely in a timely manner as it is cheap and already in use around the world.
“The turnaround time to get this vaccine from the trial to having it readily available for people is significantly shorter than what we've been hearing about,” said Dr. Shariq Haider, an infectious disease specialist at McMaster University.
Still, Pai remains somewhat cautious about the effectiveness of the vaccine, given how widely used it is in India and Brazil, where cases have skyrocketed.
According to Johns Hopkins University, India (6.6 million cases) and Brazil (4.9 million cases) have the second and third most confirmed COVID-19 cases in the world, respectively. Nearly 250,000 people have died in both countries combined.
“We should all be skeptical because we know (COVID-19 is) a graveyard of drugs and vaccines right now,” Pai said. “We started off with hydroxychloroquine, now we know it doesn't work. We tried antiretroviral drugs for HIV, doesn't work and every time we think something works, medicine teaches us a really humbling lesson.”
Researchers are also urging people not to take the vaccine thinking it will help until they have more data

on the matter.
Results from the international studies are expected by the end of 2020, but the University Health Network study isn't expected to be released until the spring of 2021.
https://www.ctvnews.ca/health/coronavirus/canadian-researchers-begin-clinical-trials-of-tuberculosis-vaccine-for-covid-19-1.5134233

Study

Rogue Antibodies and Gene Mutations Explain Some Cases of Severe COVID-19
Source: NIH Directors Blog
Unique ID: 1007985360

Caption: Colorized scanning electron micrograph of a dying cell (blue) heavily infected with SARS-CoV-2 virus particles (yellow), isolated from a patient sample. Credit: National Institute of Allergy and Infectious Diseases, NIH
One of the many perplexing issues with COVID-19 is that it affects people so differently. That has researchers trying to explain why some folks bounce right back from the virus, or don't even know they have it—while others become critically ill. Now, two NIH-funded studies suggest that one reason some otherwise healthy people become gravely ill may be previously unknown trouble spots in their immune systems, which hamper their ability to fight the virus.
According to the new findings in hundreds of racially diverse people with life-threatening COVID-19, a small percentage of people who suffer the most severe symptoms carry rare mutations in genes that disrupt their antiviral defenses. Another 10 percent with severe COVID-19 produce rogue "auto-antibodies," which misguidedly disable a part of the immune system instead of attacking the virus.
Either way, the outcome is the same: the body has trouble fending off SARS-CoV-2, the novel coronavirus that causes COVID-19. The biological reason is there's not enough of an assortment of signaling proteins, called type I interferons, that are crucial to detecting dangerous viruses like SARS-CoV-2 and sounding the alarm to prevent serious illness.
The research was led by Jean-Laurent Casanova, Howard Hughes Medical Institute and The Rockefeller University, New York; and the Imagine Institute, Necker Hospital, Paris. Casanova and his team began enrolling people with COVID-19 last February, with a particular interest in young adults battling severe illness. They were curious whether inherent weaknesses in their immune systems might explain their surprising vulnerability to the virus despite being otherwise young and healthy. Based on earlier findings in other infectious illnesses, they were especially interested in a set of 13 genes involved in interferon-driven immunity.
In their first study, published in the journal *Science*, researchers compared this set of genes in 659 patients with life-threatening COVID-19 to the same genes in 534 people with mild or asymptomatic COVID-19 [1]. It turned out that 23, or 3.5 percent, of people with severe COVID-19 indeed carried rare mutations in genes involved in producing antiviral interferons. Those unusual aberrations never turned up in people with milder disease. The researchers went on to show in lab studies that those genetic errors leave human cells more vulnerable to SARS-CoV-2 infection.
The discovery was certainly intriguing, but given the rarity of those mutations, it doesn't explain most instances of severe COVID-19. Still, it did give Casanova's team another idea. Perhaps some other people who suffer from severe COVID-19 lack interferons too, but for different reasons. Perhaps their bodies were producing rogue antibodies that were crippling their own antiviral defenses.
In their second study, also in *Science,* that's exactly what researchers found in 101 of 987 (over 10 percent) patients from around the world with life-threatening COVID-19 [2]. In the bloodstreams of such individuals, they detected auto-antibodies against an assortment of interferon proteins. Those antibodies, which blocked the interferons' antiviral activity, weren't found in people with more mild cases of COVID-19.
Interestingly, the vast majority of patients with those harmful antibodies were men. The findings might help to explain the observation that men are at greater risk than women for developing severe COVID-19. The patients with auto-antibodies also were slightly older, with about half over the age of 65.
Many questions remain. For instance, it's not yet clear what drives the production of those debilitating auto-antibodies. Might there be more mutations in antiviral defense-related genes that researchers have yet to discover? Is it possible that interferon treatment may help some people with severe COVID-19?

Such treatment may be difficult in patients with auto-antibodies, although some clinical trials to explore this possibility already are underway.
The findings, if confirmed, have some potentially immediate implications. It's possible that screening patients for the presence of damaging auto-antibodies might help to identify those at greater risk for progressing to severe disease. Treatments to remove those antibodies from the bloodstream or to boost antiviral defenses in other ways also may help. Ideally, it would be a good idea to make sure donated convalescent plasma now being tested in clinical trials as a treatment for severe COVID-19 doesn't contain such disruptive auto-antibodies.
These new findings come from an international effort involving hundreds of scientists called the COVID Human Genetic Effort . Besides its ongoing efforts to understand severe COVID-19, Casanova says his team is also taking a look at the other side of the coin: how some people who've been exposed to severe COVID-19 in their own households manage to not get sick. A related international group called the COVID-19 Host Genetics Initiative is pursuing similar goals. Such insights will be invaluable as we continue to manage and treat COVID-19 patients in the future.
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Links:
Coronavirus (COVID-19) (NIH)
Interferons (Alpha, Beta) (NIH)
Interferons. Taylor MW. Viruses and Men: A History of Interactions. 2014 July 22. (Pubmed)
Video: Understanding the underlying genetics of COVID-19 , Jean-Laurent Casanova (Youtube)
Jean-Laurent Casanova (The Rockefeller University, New York)
COVID Human Genetic Effort
NIH Support: National Institute of Allergy and Infectious Diseases
https://directorsblog.nih.gov/2020/10/06/rogue-antibodies-and-gene-mutations-explain-some-cases-of-severe-covid-19/

Study

Coronavirus could kill more than 2 million people by the end of the year, researchers say
Source: SCMP

- It's accelerating because the virus is so infectious and control measures aren't coordinated and systematic, according to health expert
- Northern hemisphere could see a spike in cases as it moves into winter and flu season

Nine months into the coronavirus pandemic, the global death toll hit 1 million last week – but health researchers say that number could more than double in the next three months.
And as it goes into winter and the flu season, the northern hemisphere could see a sharp rise in cases.
On Monday, the World Health Organization (WHO) said its "best estimates" indicated that roughly one in 10 people worldwide – more than 20 times the number of confirmed cases – may have been infected by the virus that causes the disease Covid-19. It warned of a difficult period ahead.
By the end of the year, some 2.3 million people could have died from the disease, according to an estimate by the University of Washington's Institute for Health Metrics and Evaluation.
That level of acceleration "makes sense", said Janet Hatcher Roberts, co-director of the WHO Collaborating Centre for Knowledge Translation and Health Technology Assessment in Health Equity.

"It is accelerating given the normal spread of an epidemic and the fact that this virus is so infectious," she said. "It makes sense because we are not strictly following control measures in a coordinated and systematic fashion. This leaves holes in our ability to respond to an epidemic."

People experiencing “pandemic fatigue” and ignoring health advice and those who denied there was a pandemic meant it was likely to continue accelerating, Hatcher Roberts said.

Michael Baker, a professor of public health at the University of Otago in New Zealand, agreed the pandemic was continuing to accelerate globally, with over 35 million people infected so far.
But he said the pattern was becoming increasingly stratified as diverse response strategies were having an effect.
“Countries in the Asia-Pacific region are in many cases pursuing a containment approach that is keeping case numbers low. By contrast, most countries in Europe and North America are seeing resurgences in case numbers when they loosen suppression measures,” Baker said.

However, patterns in many low- to middle-income countries were harder to track because of their low levels of testing, he said.
As the northern hemisphere moves into winter and flu season, health experts have urged the public to stay vigilant.
Baker noted that winter conditions were associated with an increase in rates of respiratory infections in temperate countries. That was because people spent more time in crowded indoor areas, the virus could potentially survive longer in cooler conditions, and also exposure to cold weather could lower defences against infection, he said.
“We would therefore expect the risk of Covid-19 transmission to increase in winter, which could cause a spike in infections during that period in the northern hemisphere,” he said.
Donna Patterson, a professor at Delaware State University who studies global health, said for countries with active outbreaks, a strong public health response – including testing, treatment, contact tracing and quarantine and isolation where necessary – remained vital.
“As evident already, if governments or its citizens are lax about pandemic response or using protective measures, numbers will spike,” she said.

Patterson said in the Americas, particularly the United States, Mexico and Brazil, the numbers had yet to stabilise and a major jump in cases in the second wave would be troubling.
According to Hatcher Roberts, flu season could be an added complication as it would be difficult to differentiate between influenza and Covid-19 symptoms.
“Primary care settings and testing settings will become increasingly overwhelmed and many will elect to not get tested,” she said. “This combined with catching up with all the rebooked elective surgeries cancelled during Covid-19 raises alarm bells within the health care system in some areas of Canada for example, where we have universal coverage,” she added.
In the US, general guidelines released by the Centers for Disease Control and Prevention remained consistent after President Donald Trump’s Covid-19 diagnosis.

But Trump’s tweets during and after his short stay at the Walter Reed National Medical Center near Washington, including telling people not to be afraid of Covid-19, “showed that he still does not take the pandemic seriously”, Patterson said.
“I hope that Trump’s diagnosis will lead to greater awareness of the disease and a widespread, more coordinated US response to the pandemic,” she said.
Recent spikes in the sales of masks, thermometers and disinfectants showed many people who previously doubted the science behind the virus were taking things more seriously, according to Patterson.
“A cultural shift on masking, social distancing and other public health measures would be tremendous in controlling the multiple spikes happening throughout the country,” she said.
Ingrid Theresa Katz, associate faculty director at Harvard Global Health Institute, said: “I think the next week or two will be very telling in terms of how this plays out – both in public sentiment and in how Trump’s health continues to evolve.
“It is hard to predict how his behaviour will impact [the Covid-19 situation] … and whether those who have shirked mandates to wear masks will now recognise its importance.”
https://www.scmp.com/news/china/society/article/3104338/coronavirus-could-kill-more-2-million-people-end-year?utm_medium=email&utm_source=mailchimp&utm_campaign=enlz-china_coronavirus&utm_content=20201006&tpcc=enlz-

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china_coronavirus&MCUID=09fa1286a5&MCCampaignID=117e843020&MCAccountID=3775521f5f542047246d9c827&tc=14

Study
Approved MS Drug Inhibits Replication of SARS-CoV-2 in Human Lung Cells and Fights Immune Reaction Killing COVID-19 Patients
Source: Hospimedica.com
Unique ID: 1007985502

When the pandemic struck, the biomedicine researchers were in the process of testing the effects of a drug which was virtually identical with a particular sclerosis medicine, namely a substance called 4-octyl-itaconate, which is used on e.g. the herpes virus, smallpox virus (vaccinia virus) and zika virus, and which is also known to lead to foetal defects – all as part of the hunt for a broad spectrum antiviral medication.
In a new study, biomedicine researchers at the Aarhus University (Aarhus, Denmark) have shown that a drug called dimethyl fumarate (DMF), which is approved for the treatment of MS patients, inhibits the growth of a range of viruses in the body's cells and that this includes the coronavirus (SARS-CoV2) – at least when the researchers test it in a test tube. A drug which has already been approved for the treatment of multiple sclerosis (MS) patients effectively inhibits the coronavirus when tested on human lung cells and, at the same time, fights the immune reaction that is killing COVID-19 patients around the world.
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And their testing succeeded beyond expectations. The number of duplications that the coronavirus makes of itself in the body's cells was drastically reduced. At the same time, the drug inhibited the immune reaction or inflammatory condition that constitutes a large portion of the actual threat for coronavirus patients.
When the research group saw the encouraging results with 4-octyl-itaconate, they repeated the tests with a corresponding approved product, DMF, which showed virtually the same inhibitory effect. This means that the effect of DMF can be tested on corona patients 'here and now', if clinicians in Denmark or abroad – and the company that holds the patent – are prepared to test it in human trials.
"You can really save a lot of time when you're testing a medication that has already been approved and tested in another context," said Christian Kanstrup Holm, an associate professor at the Department of Biomedicine at Aarhus University, with reference to the statutory phases involved in getting a medication approved from scratch.
"As we're doing basic research, we obviously don't know whether the drug works on infections in humans, and it's up to the infectious disease experts to test for this. However, I have to say that I'm very
https://www.hospimedica.com/covid-19/articles/294784857/approved-ms-drug-inhibits-replication-of-sars-cov-2-in-human-lung-cells-and-fights-immune-reaction-killing-covid-19-patients.html

Study
COVID-19 outcomes in patients with rare inborn immune disorders.
Source: Infosurhoy
GPHIN ID: 1007985402

A new research report reveals that 94 individuals with rare inherited immune disorders, otherwise known as primary immunodeficiency (PID), who were infected with the SARS-CoV-2 coronavirus had similar disease outcomes to the general population. However, admission rates to intensive care tended to be

higher in PID patients and the average age of affected patients was lower than in the general population.
The study, led by the Garvan Institute of Medical Research and KU Leuven, provides information for individuals affected by PIDs, their families and clinicians. The findings also contribute to an understanding of the components of the immune system that underpin an effective coronavirus immune response.
“We wanted to find out the impact of SARS-CoV-2 infection on those individuals with rare immune disorders, a group of patients assumed to be at-risk of severe COVID-19 disease if infected with SARS-CoV-2. As PID patients are so rare, this study was only possible through a large global research collaboration across 50 centers,” says Prof Stuart Tangye, leader of the immunity and inflammation research theme at Garvan and senior author of the study.
“The findings show that pre-existing immune deficiencies were generally not found to be a significant risk factor as the rate of fatality from COVID-19 was no higher in this group than the general population. Some immune defects even appeared to be protective against the dramatic immune pathology that is frequently seen in severe disease. However, our study suggests younger male patients with PIDs are more likely to endure severe COVID-19 and require ICU admission,” says Isabelle Meyts, Professor at KU Leuven, and Clinical lead of the primary immunodeficiency care program at University Hospitals Leuven.
The researchers publish the findings in the Journal of Allergy and Clinical Immunology.
Inborn errors of immunity
The consequences of infection with the SARS-CoV-2 coronavirus are vastly different across individuals. Some infected people are more at risk than others, including older individuals and those with underlying health conditions. However, little is known about those with pre-existing rare inherited immune disorders.
“There has been substantial anxiety within the PID community that their immune condition would result in a more severe clinical outcome should they contract SARS-CoV-2 and develop COVID-19,” says Prof Meyts.
The researchers invited clinical immunologists from around the world who manage patients with inborn errors of immunity to complete a questionnaire, if their patients had contracted the SARS-CoV-2 virus. Data was collected from patients in the U.S., UK, France, Spain, Italy, Germany, the Netherlands and Latin America.
Of the 94 reported patients, 25 had mild disease and were treated as outpatients, while 59 (63%) required hospitalization. Of those hospitalized, 13 required non-invasive breathing assistance, and 15 were admitted to intensive care for invasive ventilation.
Sadly, nine of the 94 patients passed away from COVID-19 (9.6%), which is within the range of global data of COVID-19 mortality (1-20%). However, admission rates to ICU were higher and the average age was lower in PID-affected patients than in the general population.
“Our findings warrant a recommendation for further stringent personal protective measures for patients affected by PIDs,” says Prof Meyts.
Similar to the general population, adult patients in the study cohort who succumbed to SARS-CoV-2 infection had existing comorbidities, such as heart failure, chronic kidney or lung disease, and diabetes.
Searching for genes essential for COVID-19 defense
The study further revealed insights for the components of the immune system that may be involved in SARS-CoV-2 immune defense.
“More than half the patients we surveyed (56%) had a deficiency in their ability to produce antibodies. Surprisingly, these patients had similar outcomes to the rest of the cohort. And patients who were completely unable to produce antibodies all recovered following infection,” says Prof Meyts.
The findings also revealed that patients with gene defects that resulted in the body being unable to respond to the pro-inflammatory effects of interleukin 6 (IL-6) developed little or no disease when infected with the SARS-CoV-2 virus. IL-6 is a signaling molecule released by the body in response to infections, and helps regulate the human immune response.
“Our findings suggest that certain forms of immune suppression, which reduce the function of IL-6, are protective against the pathological effects of the cytokine storm frequently observed in patients,” says Prof Tangye.
The researchers say further studies are needed to gain a comprehensive understanding of which components of the immune system are crucial to a successful coronavirus defense. “We hope such studies will contribute to a greater understanding of COVID-19 disease progression and new therapeutic approaches,” says Prof Tangye.
https://infosurhoy.com/news-summary/covid-19-outcomes-in-patients-with-rare-inborn-immune-disorders/

Study

New research supports sofosbuvir in combination with other antivirals for COVID-19

Source: **medicalxpress.com**

Unique ID: 1007986581

Other investigators have since demonstrated the ability of Sofosbuvir to inhibit SARS-CoV-2 replication in lung and brain cells; currently, COVID-19 clinical trials with a number of hepatitis C drugs such as EPCLUSA and the combination of Sofosbuvir and Daclatasvir (which is similar to Velpatasvir) are ongoing in several countries. Ju notes that a recent preprint from UC Berkeley indicates that a combination of Remdesivir and EPCLUSA increases Remdesivir's efficacy 25-fold in inhibiting SARS-CoV-2, the virus that causes COVID-19: "These results offer a molecular basis supporting the study of EPCLUSA in combination with Remdesivir for COVID-19 clinical trials." The results of the new study, published today by the Nature Research journal Scientific Reports, support the use of the FDA-approved hepatitis C drug EPCLUSA—Sofosbuvir/Velpatasvir—in combination with other drugs in COVID-19 clinical trials.

Columbia Engineering researchers report that Sofosbuvir-terminated RNA is more resistant to the proofreader of SARS-CoV-2, the virus that causes COVID-19, than Remdesivir-terminated RNA. The results of the new study, published today by the Nature Research journal Scientific Reports, support the use of the FDA-approved hepatitis C drug EPCLUSA—Sofosbuvir/Velpatasvir—in combination with other drugs in COVID-19 clinical trials.

The SARS-CoV-2 exonuclease-based proofreader maintains the accuracy of viral RNA genome replication to sustain virulence. Any effective antiviral targeting the SARS-CoV-2 polymerase must therefore display a certain level of resistance to this proofreading activity.

"We found that the RNA terminated by Sofosbuvir resists removal by the exonuclease to a substantially higher extent than RNA terminated by Remdesivir, another drug being used as a COVID-19 therapeutic," says the team's lead PI Jingyue Ju, Samuel Ruben-Peter G. Viele Professor of Engineering; professor of Chemical Engineering and Pharmacology; director, Center for Genome Technology & Biomolecular Engineering.

The new study builds upon earlier work the researchers have conducted. Last January, before COVID-19 reached pandemic status, the team posited that EPCLUSA might inhibit SARS-CoV-2, the virus responsible for COVID-19. Their reasoning was based on the analysis of the molecular structures and activities of hepatitis C viral inhibitors and a comparison of hepatitis C virus and coronavirus replication. In a subsequent study, the researchers demonstrated that the active drug Sofosbuvir triphosphate is incorporated by SARS-CoV and SARS-CoV-2 polymerases, shutting down the polymerase reaction.

Other investigators have since demonstrated the ability of Sofosbuvir to inhibit SARS-CoV-2 replication in lung and brain cells; currently, COVID-19 clinical trials with a number of hepatitis C drugs such as EPCLUSA and the combination of Sofosbuvir and Daclatasvir (which is similar to Velpatasvir) are ongoing in several countries.

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More information: Steffen Jockusch et al, Sofosbuvir terminated RNA is more resistant to SARS-CoV-2 proofreader than RNA terminated by Remdesivir, Scientific Reports (2020). DOI: 10.1038/s41598-020-73641-9

Journal information: Scientific Reports

https://www.nature.com/articles/s41598-020-73641-9

https://medicalxpress.com/news/2020-10-sofosbuvir-combination-antivirals-covid-.html

Domestic Events of Interest

Nil

International Events of Interest

International

New strain of scarlet fever is infecting children around the world, scientists warn
Source: Infosurhoy
ID: 1007989070

A new bug has sparked soaring cases of scarlet fever in children across the world, scientists have warned.
The resurgence of a disease that has caused high death rates for centuries has been likened to the Covid-19 pandemic.
Numbers being struck down in England have risen up to sevenfold in six years. As in coronavirus, a vaccine will soon be needed.
Supercharged 'clones' of the bacteria Streptococcus pyogenes that cause the disease are to blame, new research shows.
Lead author Dr Stephan Brouwer, of the University of Queensland, said it has taken health authorities globally by surprise.
An epidemic of the infectious illness – characterised by a bright red rash and a sore throat – swept Asia in 2011.
Dr Brouwer said: "The disease had mostly dissipated by the 1940s. Like the virus that causes Covid-19, Streptococcus pyogenes bacteria are usually spread by people coughing or sneezing.
"Symptoms include a sore throat, fever, headaches, swollen neck glands and a characteristic scarlet-coloured, red rash. Scarlet fever commonly affects children, typically aged between two and 10 years.
"After 2011, the global reach of the pandemic became evident with reports of a second outbreak in the UK, beginning in 2014.
"This global re-emergence of scarlet fever has caused a more than five-fold increase in disease rate and more than 600,000 cases around the world."
His international team found a variety of Streptococcus pyogenes bacteria that had acquired bacterial toxins called 'superantigens' – forming new clones.
Co-author Prof Mark Walker, also from Queensland, said: "The toxins would have been transferred into the bacterium when it was infected by viruses that carried the toxin genes.
"We've shown these acquired toxins allow Streptococcus pyogenes to better colonise its host, which likely allows it to out-compete other strains. These supercharged bacterial clones have been causing our modern scarlet fever outbreaks."
When the researchers removed the toxin genes from the clones they were less able to cause scarlet fever in experiments on mice.
Currently outbreaks have been dampened – largely due to public health policy measures introduced to control Covid-19.
Prof Walker said: "This year social distancing has kept scarlet fever in check for now. And the disease's main target – children – have been at school less and also spending far less time in other large groups.
"But when social distancing eventually is relaxed, scarlet fever is likely to come back. We need to continue this research to improve diagnosis and to better manage these epidemics."
He added: "Just like Covid19, ultimately a vaccine will be critical for eradicating scarlet fever – one of history's most pervasive and deadly childhood diseases."
Since 2014, between 15,000 and 30,000 cases have been diagnosed in England annually – compared to 4,366 in 2013.
In Victorian England, it was one of the leading causes of deaths in children. In the modern day it can be treated with antibiotics.
Infected individuals often develop a white coating on the tongue which peels away a few days later.
The highly contagious affliction is spread by close contact with someone already carrying the bacteria. It can take up to five days to develop symptoms.
Last year the British Medical Journal noted the rates of scarlet fever in England had reached the highest point for 50 years.
https://infosurhoy.com/technology/new-strain-of-scarlet-fever-is-infecting-children-around-the-world-scientists-warn/

Sudan

Health emergency declared in West Darfur as chikungunya cases rise
Source: Radio Dabanga

Unique ID: 1007986139

In a meeting with Prime Minister Abdallah Hamdok in Khartoum on Monday, Governor Amal Ezzeldin of Northern State, indicated the ongoing efforts to combat the fever epidemic that has recently spread in the state through field surveys and control, pointing to the state's need for more spraying machines for pesticides. While no deaths have been recorded, the governor appealed to the public in West Darfur to adhere to the health guidelines issued by the Ministry of Health. In the localities of Merowe and Ed Debba in Northern State, "fevers accompanied by bleeding and a decrease in blood platelets" resulted in the death of 10 people and left hundreds in critical condition last month.

A State of Health Emergency has been declared in West Darfur in Sudan after 41 cases of chikungunya* fever were confirmed. On Monday, the governor of West Darfur, Mohamed El Doma, made the declaration after confirming that 41 people were infected with chikungunya out of a total of 52 suspected cases. There is also a scarcity of medicines, medical supplies, and hospital capacity.

The unusually heavy rainy season has made control of vectors such as mosquitoes extra challenging.

The First Aid Hospital in the state capital El Geneina is overcrowded and running short of equipment, and lacks sufficient of medical staff, beds, and wards.

Governor El Doma described the situation as very worrying. A committee has been formed to harness all the state's capabilities to limit the spread of the disease. The governor called on the United Nations agencies and organisations operating in the state as partners to confront the health situation.

While no deaths have been recorded, the governor appealed to the public in West Darfur to adhere to the health guidelines issued by the Ministry of Health. He said that the state has begun to sanitize the environment, but did not take into account the control of disease vectors [chiefly mosquitoes] owing to the heavy rains that fell this year.

Malaria

Dr Mohamed Yahya, Director of the West Darfur Ministry of Health confirmed an increase in malaria cases in the state which exceed the response and treatment capabilities the state.

He appealed to the federal Ministry of Health to intervene in order to save the situation, citing the scarcity of the pesticides that have been developed for these emergencies.

Northern State

In Northern State, fevers are still prevalent in Ed Debba and Merowe localities, which, as previously reported by Radio Dabanga, has led to deaths and many cases of infection.

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*Chikungunya key facts (Source: WHO)

Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It causes fever and severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue and rash.

Joint pain is often debilitating and can vary in duration.

The disease shares some clinical signs with dengue and zika, and can be misdiagnosed in areas where they are common.

There is no cure for the disease. Treatment is focused on relieving the symptoms.

The proximity of mosquito breeding sites to human habitation is a significant risk factor for chikungunya.

The disease mostly occurs in Africa, Asia and the Indian subcontinent. However a major outbreak in 2015 affected several countries of the Region of the Americas.

Chikungunya is a mosquito-borne viral disease first described during an outbreak in southern Tanzania in 1952. It is an RNA virus that belongs to the alphavirus genus of the family Togaviridae. The name "chikungunya" derives from a word in the Kimakonde language, meaning "to become contorted", and describes the stooped appearance of sufferers with joint pain (arthralgia).

https://www.dabangasudan.org/en/all-news/article/health-emergency-declared-west-darfur-as-chikungunya-cases-rise

Sudan

Sudan reports another polio case, Vaccination campaign planned for 8.6 million children

Source: Outbreak News Today
Unique ID: 1007974255

Close to 10 million doses of polio vaccine arrived Thursday in Khartoum, which will be used during the National Polio Campaign planned for October to immunize 8.6 million of the country's children under the age of five. One additional circulating vaccine-derived poliovirus-2 (cVDPV2) case was reported in the Red Sea province, Sudan, bringing the total cases reported in to 23 since the first cases were reported in early August. The initial viruses were linked to the ongoing outbreak in Chad followed by local transmission, according to the Global Polio Eradication Initiative.

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"We must protect children from the threat of polio, and the best way to do that is to increase the polio vaccination coverage and urge parents and communities to bring their children for vaccination to save them from the crippling disease", said UNICEF Representative, Abdullah Fadil . "A little effort now can give children the best health care service that they need in their first years of life," he remarked.

"Vaccinating every child is the only way to stop this outbreak spreading further," said Dr Ni'ma Saeed Abid, WHO Representative. "The pandemic has led to lower rates of routine immunization, placing children at even greater risk. We are committed to working with parents and caregivers to deliver vaccines, and urgently raise immunity levels."

"This is a multi-country outbreak has been active in 4 out of 7 neighboring countries with Sudan. In addition to in-country efforts we started coordination with outbreak countries bordering Sudan to have holistic and comprehensive response," said Dr.Ni'ma.

http://outbreaknewstoday.com/sudan-reports-another-polio-case-vaccination-campaign-planned-for-8-6-million-children-86451/

Researches, Policies and Guidelines

Canada

Canadian Drug Policy Coalition launches national dialogue series on the overdose crisis and COVID-19

Source: NewsWire
Unique ID: 1007985281

Using learnings from the pandemic to respond to Canada's other public health crisis
VANCOUVER, BC, Oct. 6, 2020 /CNW/ - Never before in Canadian history have communities confronted two concurrent public health catastrophes like the overdose crisis, fueled by a toxic drug supply, and a coronavirus pandemic that has uprooted the routines of daily life and society. At the heart of these converging crises are people who use drugs. COVID-19 has made everything worse for this community at a time when overdose deaths are rising across the country and individual health and safety is more precarious than ever.

https://mma.prnewswire.com/media/1283552/Canadian_Drug_Policy_Coalition_Canadian_Drug_Policy_Coalition_la.jpg

In response to this unprecedented time, the Canadian Drug Policy Coalition at Simon Fraser University, in partnership with the Morris J. Wosk Centre for Dialogue, is launching Getting to Tomorrow: Ending the

Overdose Crisis—18 public health dialogues across **Canada** over the next two years aimed at identifying and moving towards solutions to the overdose crisis, in the context of COVID-19, by building consensus and shared meaning.

"The COVID-19 pandemic has exposed the illegal drug toxicity death crisis as a catastrophic failure of Canada's current approach to drugs. Governments have moved mountains in response to the COVID-19 pandemic while a coherent pan-Canadian approach to over 15,000 overdose deaths in the past four and a half years has failed to materialize," said Donald MacPherson, executive director of the Canadian Drug Policy Coalition. "We hope the Getting to Tomorrow dialogue series will inform, engage, and inspire Canadians to become more involved in building a new approach to drugs based on principles of public health and human rights, and lead to improved health and safety for all in our communities."

Getting to Tomorrow is also hoping to use learnings from the COVID-19 pandemic to improve Canada's overdose response at a time when lives are being lost at an unprecedented rate. More specifically, Getting to Tomorrow has three main goals:

*Accelerate the adoption of public health- and human rights-based drug policies to guide government responses to drugs in **Canada**

*Empower decision makers and the public to take evidence-based actions by providing the latest research on policies that could end the overdose crisis

*Engage the public in dialogue on issues related to substance use and drug policy

The dialogues will happen virtually (open to invited attendees only) and will invite leaders from diverse communities, including people who use drugs, community and business leaders, government officials, First Nations, public health officials, and law enforcement, to share their stories of navigating the challenges of the overdose crisis during a time of pandemic and global instability. By sharing perspectives and stories, communities can come to recognize the commonalities that unite us rather than the differences that set us apart. This can lay the groundwork for transformative change.

Getting to Tomorrow will begin in Montreal on October 7 with community partner l'Association des intervenants en dépendance du Québec (AIDQ).

"As Montreal is one of the epicentres of COVID-19 in **Canada**, the lives of people who use substances are more than ever at risk as the number of overdoses is dramatically rising," said Sandhia Vadlamudy, executive director of l'Association des intervenants en dépendance du Québec. "Having such a dialogue in Montreal, as well as any other city, will help us understand each other's perspectives and work together towards better longer-term solutions where everybody wins."

Getting to Tomorrow is supported by Health **Canada** through the Substance Use and Addictions Program.

www.gettingtotomorrow.ca

About Canadian Drug Policy Coalition

The Canadian Drug Policy Coalition (CDPC) is a coalition of 50 organizations and 4,000 individuals working to support the development of progressive drug policy grounded in science, guided by public health principles, and respectful of human rights. The CDPC operates as a project within Simon Fraser University under the Centre for Applied Research in Mental Health and Addiction. The CDPC seeks to include people who use drugs and those harmed by the war on drugs in moving toward a healthier Canadian society free of stigma and social exclusion.

About Morris J. Wosk Centre for Dialogue

Simon Fraser University's Morris J. Wosk Centre for Dialogue creates real-world impact for society's most pressing challenges by using dialogue and engagement to co-create solutions, exchange knowledge, support community-engaged learning, and to build the capacity of others in the knowledge and practice of dialogue. They strive to bring together diverse voices, stories, perspectives and experiences, with a goal to increase understanding about others and ourselves. It is a conversational process intended to help us gain insight into complex problems to which no one person holds the answer.

About Association des intervenants en dépendance du Québec (AIDQ)

AIDQ is a non-profit organization that includes stakeholders from all sectors interested in the field of addictions in Quebec, such as the public, private and community sectors, public health and social services, education, universities, research, public safety and the workplace. AIDQ's mission is to promote and support intervention in the areas of prevention, harm reduction, treatment and the social reintegration of people with addictions and those at risk of becoming addicted, through skills development, information, collaboration, and the sharing of expertise.

SOURCE Canadian Drug Policy Coalition.

https://www.newswire.ca/news-releases/canadian-drug-policy-coalition-launches-national-dialogue-series-on-the-overdose-crisis-and-covid-19-852382058.html
www.gettingtotomorrow.ca

United States

Streptococcus zooepidemicus Infections in Horses

Source: The Horse
GPHIN ID: 1007985623

Streptococcus equi subspecies zooepidemicus is a Gram-positive bacterium that can cause opportunistic infections in many animal species, including horses, cattle, swine, sheep, goats, chickens, cats, and dogs. The bacteria cause disease when the normal mechanisms with which the body protects itself break down. S. zooepidemicus is actually part of the normal bacterial flora in and on horses' bodies. It's responsible for a wide variety of diseases and issues in horses, including pneumonia, abortions, and upper respiratory, wound, testicular, and neonatal infections.

S. zooepidemicus is related to S. equi subspecies equi, the causative agent of strangles. Both organisms appear as long chains of cocci (spherical bacteria) under a microscope. Strangles differs from the diseases caused by S. zooepidemicus because S. equi is highly contagious from horse to horse, is typically horse-specific, is always considered pathogenic (causing signs of disease), and is usually limited to an infection of the upper respiratory tract.

Veterinarians consider S. zooepidemicus the most important pathogen associated with pneumonia in horses of all ages. A viral infection, intense training, or prolonged transportation first compromises the horse's defense mechanisms, enabling S. zooepidemicus—a normal inhabitant of the equine throat and tonsils—to take advantage and establish an infection in the lungs. Concurrent infections with other bacteria often cause further complications.

S. zooepidemicus is a common cause of placental infection and inflammation that can lead to early embryonic death, abortion, premature birth, and in utero growth restriction. Mares might show few clinical signs, such as vaginal discharge and premature udder development. They often have a normal temperature and bloodwork and a good appetite. Veterinarians can make a presumptive diagnosis by viewing the placental layers via rectal ultrasound. Bacteria ascending from the urogenital tract mucosa through a relaxed cervix most likely cause the infection. In addition to treating with systemic antibiotics, such as trimethoprim sulfamethoxazole, that target the placenta tissues well, veterinarians often support mares with progestin hormones to maintain the pregnancy to term.

Because S. zooepidemicus exists as normal flora on horses' skin, it can invade tissues damaged from trauma or maceration (softening/breaking down) due to wet environments.

In stallions S. zooepidemicus is often responsible for infection and inflammation of the epididymis (the structure that collects and stores sperm). It could occur independent of other conditions but commonly appears subsequent to infections of the secondary sex glands (vesicular glands, prostate, ampullae, and bulbourethral glands) within the male reproductive tract. The source of the bacteria can be ascending infection from the urogenital passages, as well as venereal contact or blood vessels.

In the past decades we've seen a few published reports of upper respiratory outbreaks caused by S. zooepidemicus. Although it's usually not considered contagious between equids, 77,000 horses in Iceland were infected in a 2010 outbreak. Researchers documented S. zooepidemicus as the cause of a strangleslike disease in 2013 in Sweden, as well as rhinitis and pneumonia in horses on a Pacific island off Australia in the late 1990s. S. equi typically causes the classic signs of strangles unless proven otherwise, but now we must also consider S. zooepidemicus. Veterinarians can use culture and polymerase chain reaction (PCR, a DNA-based test) to distinguish between the organisms.

S. zooepidemicus is traditionally susceptible to drugs such as penicillin, but veterinarians should base drug choices on culture and sensitivity results and antibiotics' ability to penetrate affected tissues.

Zoonotic Potential

In the past 15 years scientists have increasingly recognized S. zooepidemicus as a potential zoonotic disease, meaning it could spread between animals and humans. Early reports of human outbreaks of S. zooepidemicus have been associated with consuming unpasteurized cheese, but more recently disease has been traced to horses. In a 2013 study researchers established proof of S. zooepidemicus transmission from horses to humans. Incidents have been fairly rare, and we don't yet know enough to identify which horse with a S. zooepidemicus infection or even normal mucosal flora could be a source.

[APG]

Horse handlers should always practice good hand hygiene and might reconsider kissing their horses' noses.
https://thehorse.com/193046/streptococcus-zooepidemicus-infections-in-horses/

South Korea

Some Liquid E-cigarette Ingredients are Toxic: Study
Source: Be Korea-savvy
GPHIN ID: 1007984721

SEOUL, Oct. 6 (Korea Bizwire) — The Ministry of Health and Welfare said Sunday that some ingredients in liquid e-cigarettes were confirmed to be toxic in cell and animal experiments.
The ministry, however, noted that thus far in South Korea, there have been no reported cases of acute lung disease or death resulting from the use of liquid e-cigarettes
In October last year, there were reported cases of lung injuries and death resulting from the use of liquid e-cigarettes in the U.S., with some suspected cases also being reported in South Korea.
To collect related cases, the government organized a private-public joint investigation team and carried out cell and animal experiments.
According to the Korea Disease Control and Prevention Agency, the survival rate of cells declined in a certain density of propylene glycol, glycerin, and flavor chemicals among the ingredients of liquid e-cigarettes.
In particular, propylene glycol and glycerin, which are used as solvents, were found in all of the 112 liquid e-cigarette products that are distributed in the domestic market.
Three types of flavor chemicals – diacetyl, acetoin, and 2.3-pentane dione – that have received been identified as causing lung disease in the U.S. and Britain were detected in eight liquid e-cigarette products.
In an animal inhalation experiment, toxins were detected in the respiratory system when the dose of lung-damaging ingredient vitamin E acetate was increased up to 3.125 mg/kg.
Ashley Song (ashley@koreabizwire.com)
http://koreabizwire.com/some-liquid-e-cigarette-ingredients-are-toxic-study/171114