AGENDA FOR THE REGULAR MEETING OF
THE COUNCIL OF THE TOWN OF ONOWAY
HELD ON THURSDAY, AUGUST 20, 2020 IN THE COUNCIL CHAMBERS
OF THE ONOWAY CIVIC OFFICE AT 9:30 A.M.

1. CALL TO ORDER

2. ADOPTION OF AGENDA

- as is, or with additions or deletions

Pg 1-4 **3. ADOPTION OF MINUTES** – August 6, 2020 Regular Council Meeting

4. APPOINTMENTS/PUBLIC HEARINGS – n/a

Pg 5-6 **5. FINANCIAL REPORTS** – Revenue and Expenses Report of July 31, 2020

6. POLICIES & BYLAWS – n/a

7. ACTION ITEMS

Pg 7-54 a) Coronavirus Preparation/Update – Standing item – Verbal update at meeting time.
(for discussion and direction of Council at meeting time)

b) Tendering of Contracts for the Town of Onoway – Councillor Johnson to provide further information at meeting time. (*for discussion and direction of Council at meeting time*)

c) Onoway Community Hall – Councillor St. Hilaire has requested a discussion regarding ongoing community hall upgrades. A copy of the current lease agreement between the Town of Onoway and the Onoway Facility Enhancement Association is attached. Clause 1.3 – Current term is Jan. 1, 2017 to Dec. 31, 2020; Clause 1.4 – 30 day prior notice is required or auto renewed for 1 year; Clause 5.2 – the Tenant shall not install or construct fixtures, partitions, or other permanent improvements without the advance approval of the Landlord in writing; Clause 5.4a – the Tenant convenants that it shall be lawful for the Landlord at all reasonable times and upon 24 hours notice to inspect its condition. (*for discussion and direction of Council at meeting time)*

Pg 55-68

d) Municipal Funding to Local Libraries – please refer to the attached July 10, 2020 letter from Lac Ste. Anne County Library Board Chair Judy Kidd, requesting the Town to review the amount of funding that is provided to the local library. The Town currently provides $16.42 per capita (including direct, FCSS and YRL contributions) and in 2020, to date, has provided an additional $6,116.85 in in-kind services (staff time) to the administration of the Library. (*for discussion and direction of Council at meeting time)*

Pg 69

e) Appointment of Onoway Director of Emergency Management – Since the resignation of our previous DEM, CAO Wendy Wildman has taken on this role on an interim basis. Council to discuss the passing of a resolution to appoint Jason Madge, Assistant Chief Administrative Officer and Manager of Public Works, as Director of Emergency Management for the Town of Onoway. *(that Jason Madge be appointed as the Director of Emergency Management for the Town of Onoway)*

f) International Day of Older Persons Call to Action and Declaration – please refer to the attached August 1, 2020 request from Jessica Kinsella, Volunteer Coordinator for the Alberta Council on Aging, requesting municipalities to celebrate and declare October 1 as the International Day of Older Persons. (*to declare October 1 as the International Day of Older Persons and showcase our older adults through local and social media)*

Pg 70-73

g) 5459 Lac Ste. Anne Trail North –this property is currently zoned Industrial, along with other properties in this area. This property, however, has a house and in 2009 when the current owner purchased the property, it was zoned urban reserve, allowing them to get a residential mortgage on it. In 2013/14, the Town went through Land Use Bylaw revisions and, at that time this property was rezoned, virtually making it impossible for anyone to obtain a mortgage for a residence. We faced a similar situation with another property in this area. Development Officer Tony Sonnleitner will call in during this discussion. *(for discussion and direction by Council at meeting time)*

h)

i)

j)

8. COUNCIL, COMMITTEE & STAFF REPORTS

a) Mayor's Report
b) Deputy Mayor's Report
c) Councillor's Reports (x 3)
d) CAO Report
   - Capital Projects 2020/2021
Pg 74-80 - Provincial Assessment Review Model update
   - Fire Service Joint Media Release - update from Lac Ste. Anne County
   - Dissolution of West Central Planning Agency (WCPA) and new Inter-Municipal Solutions Agency
   - Business License Update
e) Public Works Report

9. INFORMATION ITEMS

a) Alberta Urban Municipalities Association (AUMA) – August 7, 2020 statement on Alberta Health Services (AHS) changes to municipal 911 dispatch in Calgary, Red Deer, Lethbridge and Wood Buffalo
Pg 81-82

b) Alberta Health – July 28, 2020 letter from Honourable Tyler Shandro, Minister, regarding medical first response (MFR) and co-response by fire services on emergency medical services (EMS) calls

Pg 83-84

c) Town of Onoway – Municipal Development Plan (MDP) – July 18, 2020 letter to all residents advising of a September 17, 2020 public hearing at 10:00 a.m.

Pg 85-86

d) Alberta Justice and Solicitor General Police Funding Model – July 29, 2020 email to municipalities with an explanation of the funding formula and how costs are distributed to municipalities

Pg 87-91

e)

f)

10. CLOSED SESSION – Pursuant to Section 197(2) of the Municipal Government Act and Section 17 of the Freedom of Information and Protection of Privacy Act (FOIP)–Disclosure Harmful to Personal Privacy

11. ADJOURNMENT

12. UPCOMING EVENTS:

- August 20, 2020 – EOEP Public Engagement	2:30 p.m.
- August 27, 2020 – EOEP Public Engagement	2:30 p.m.
- September 3, 2020 – Regular Council Meeting	9:30 a.m.
- September 3, 2020 – EOEP Public Engagement	2:30 p.m.
- September 17, 2020 – Regular Council Meeting	9:30 a.m.
- September 23-25, 2020 – AUMA Convention	Virtual
- October 1, 2020 – Regular Council Meeting	9:30 a.m.
- October 15, 2020 – Regular Council Meeting	9:30 a.m.

TOWN OF ONOWAY
REGULAR COUNCIL MEETING MINUTES
THURSDAY, AUGUST 6, 2020
COUNCIL CHAMBERS OF THE ONOWAY CIVIC OFFICE

	PRESENT	Mayor: Judy Tracy Deputy Mayor: Lynne Tonita Councillor: Lisa Johnson (by telephone) Councillor: Jeff Mickle Councillor Pat St. Hilaire Administration: Wendy Wildman, Chief Administrative Officer Jason Madge, Public Works Manager Debbie Giroux, Recording Secretary
1.	**CALL TO ORDER**	Mayor Judy Tracy called the meeting to order at 9:30 a.m.
2.	**AGENDA** **Motion #216/20**	**MOVED** by Councillor Jeff Mickle that Council adopt the agenda of the regular Council meeting of Thursday, August 6, 2020 with the following additions: 7h) Fortis Street Lights 7i) The Foundry 7j) Darwell Lagoon Commission Invitation – August 10, 2020 7k) Kiddy Park at Elk's Park **CARRIED**
3.	**MINUTES** **Motion #217/20**	**MOVED** by Councillor Pat St. Hilaire that the minutes of the Thursday, July 16, 2020 regular Council meeting be adopted as presented. **CARRIED**
4.	**APPOINTMENTS/PUBLIC HEARINGS**	n/a
5.	**FINANCIAL REPORTS**	n/a
6.	**POLICIES & BYLAWS** **Motion #218/20** **Motion #219/20**	**MOVED** by Deputy Mayor Lynne Tonita that Bylaw 776-20, a bylaw for the purpose of updating the Town of Onoway's Municipal Development Plan, be given first reading. **CARRIED** **MOVED** by Councillor Lisa Johnson that a Public Hearing for Bylaw 776-20 be set for Thursday, September 17, 2020 at 10:00 a.m. at the Heritage Centre Gymnasium. **CARRIED**

7.	**ACTION ITEMS**	
	Motion #220/20	**MOVED** by Deputy Mayor Lynne Tonita that Council accept the discussion and updates on Covid-19 preparation for information, and that the Town continue to share information with Council and residents as necessary. **CARRIED**
	Motion #221/20	**MOVED** by Councillor Lisa Johnson that the Tendering of Contracts for the Town of Onoway item be deferred to Council's next meeting, which is August 20, 2020. **CARRIED**
	Motion #222/20	**MOVED** by Councillor Pat St. Hilaire that the Town send a letter of support to the Lac Ste. Anne Foundation for their application to the Federation of Canadian Municipalities Green Municipal Fund's (GMF) Sustainable Affordable Housing Fund for a Planning Grant. **CARRIED**
	Motion #223/20	**MOVED** by Deputy Mayor Lynne Tonita that the Town approve and authorize execution of the Memorandum of Agreement between the Minister of Municipal Affairs and the Town of Onoway for the Municipal Stimulus Program. **CARRIED**
	Motion #224/20	**MOVED** by Councillor Lisa Johnson that the Town support the City of Cold Lake's opposition to the Federal Government's recent amendments to the Criminal Code regarding firearms by expressing Council's concerns to the Honourable Bill Blair, Minister of Public Safety and Emergency Preparedness. **CARRIED**
	Motion #225/20	**MOVED** by Councillor Lisa Johnson that the Provincial Assessment Model Review information from Lac Ste. Anne County be accepted for information, and that this item be deferred to the next Council meeting of August 20, 2020 to give Administration time to provide calculations for Onoway and also to contact MLA Getson for background and feedback from the Province. **CARRIED**
	Motion #226/20	**MOVED** by Deputy Mayor Lynne Tonita that Council ratify the participation of Councillors at the July 23, 2020 meeting with the Alberta Urban Municipalities Association (AUMA) and the Province regarding Recreation Communities and Covid-19. **CARRIED**

12

	Motion #227/20	**MOVED** by Councillor Pat St. Hilaire that the Town proceed with the installation of 15 new street lights on the south side of 47 Avenue as per the revised quote that shows the cost to Fortis being $45,240.00 and the cost to the Town of $4,195.45. The Town's portion of $4,195.45 to be taken from reserves. Administration to notify residents on 47th Avenue of this project prior to proceeding. **CARRIED**
	Motion #228/20	**MOVED** by Councillor Jeff Mickle that the discussion regarding the Foundry be accepted for information. **CARRIED**
	Motion #229/20	**MOVED** by Councillor Pat St. Hilaire that, as the entire Town Council are already scheduled to attend a Darwell Lagoon Commission meeting on August 11, 2020, the Mayor decline her invitation to attend an August 10, 2020 meeting with the Commission. **CARRIED**
	Motion #230/20	**MOVED** by Deputy Mayor Lynne Tonita that Administration invite Trista Court from Lac Ste. Anne County along with the Community Peace Officer (CPO) to attend a future Council meeting to review CPO activities and to discuss options to address issues/concerns in the parks in Onoway. **CARRIED**
8.	**COUNCIL, COMMITTEE & STAFF REPORTS** **Motion #231/20**	**MOVED** by Deputy Mayor Lynne Tonita that the verbal Council reports and the written and verbal reports from the Chief Administrative Officer and Public Works Manager be accepted for information as presented. **CARRIED**
9.	**INFORMATION ITEMS** **Motion #232/20**	**MOVED** by Councillor Lisa Johnson that Council accept the following items for information as presented: a) Lac Ste. Anne Foundation – July 17 Board minutes b) Alberta Urban Municipalities Association (AUMA) Board of Directors–Fayrell Wheeler July 28, 2020 email advising that she will not be seeking re-election as Director, Towns West for a second term

		c) AUMA Statement on Bill 29 – July 22, 2020 email and news release from Barry Morishita, President, outlining concerns regarding amendments the Province is making to the Local Authorities Election Amendment Act (LAEA) 2020 d) Regional Leaders Review Dual Call-Out Fire Services Model – July 20, 2020 news release from Lac Ste. Anne County and partnering agencies e) Alberta Police Interim Advisory Board – July 17, 2020 letter from the AUMA that introduces the interim Board members and provides the Terms of Reference. Angela Duncan from Alberta Beach is on this Board f) Community Futures Yellowhead East (CFYE) – July 31, 2020 letter of support from CAO Wildman to Michelle Jones regarding their Covid-19 grant application **CARRIED**
10.	**CLOSED SESSION** **Motion #233/20**	**MOVED** by Councillor Pat St. Hilaire that the Closed Session scheduled for this meeting be deferred until all Councillors are in attendance in person. **CARRIED**
11.	**ADJOURNMENT**	As all matters on the agenda have been addressed, Mayor Judy Tracy declared the meeting adjourned at 12:20 p.m.
12.	**UPCOMING EVENTS**	August 11, 2020 AUMA Summer Caucus (Virtual) August 13, 2020 EOEP – Public Engagement 2:30 p.m. August 20, 2020 Regular Council Meeting 9:30 a.m. August 20, 2020 EOEP Public Engagement 2:30 p.m. August 27, 2020 EOEP Public Engagement 2:30 p.m. September 3, 2020 Regular Council Meeting 9:30 a.m. September 3, 2020 EOEP Public Engagement 2:30 p.m. September 17, 2020 Regular Council Meeting 9:30 a.m. September 23-25, 2020 AUMA Convention Calgary

Mayor Judy Tracy

Debbie Giroux
Recording Secretary

4

TOWN OF ONOWAY

Revenue & Expense

AS OF JULY 31, 2020

Description	2020 Actual	2020 Budget
TOTAL TAXATION REVENUE	(1,585,022.07)	(1,585,879.21)
TOTAL REQUISITIONS	151,492.13	343,102.21
TAX REVENUE AVAILABLE FOR MUNI	(1,433,529.94)	(1,242,777.00)
TOTAL GENERAL REVENUE	(72,050.14)	(104,700.00)
TOTAL LEGISLATIVE EXPENSE	62,025.37	118,931.00
SURPLUS/DEFICIT LEGISLATIVE	62,025.37	118,931.00
TOTAL ADMIN REVENUE	(52,655.60)	(189,059.00)
TOTAL ADMIN EXPENSE	465,392.93	715,040.00
SURPLUS/DEFICIT ADMIN	412,737.33	525,981.00
TOTAL FIRE REVENUE	(219,561.61)	(344,887.00)
TOTAL FIRE EXPENSE	210,066.31	370,119.00
FIRE SURPLUS/DEFICIT	(9,495.30)	25,232.00
TOTAL DISASTER SERVICES REV.	0.00	0.00
TOTAL DISASTER SERVICES EXPENS	17,821.59	28,600.00
DISASTER SURPLUS/DEFICIT	17,821.59	28,600.00
TOTAL AMBULANCE REVENUE	(2,400.00)	(2,400.00)
TOTAL AMBULANCE EXPENSE	0.00	0.00
SURPLUS/DEFICIT AMBULANCE	(2,400.00)	(2,400.00)
TOTAL BYLAW REVENUE	(150.00)	(2,500.00)
TOTAL BYLAW EXPENSE	0.00	1,000.00
BYLAW SURPLUS/DEFICIT	(150.00)	(1,500.00)
TOTAL POLICING REVENUE	(83,488.00)	(176,000.00)
TOTAL POLICIING EXPENSE	105,400.00	211,450.00
POLICING SURPLUS/DEFICIT	21,912.00	35,450.00
TOTAL PW REVENUE	0.00	0.00
TOTAL PW EXPENSE	160,691.70	189,599.00
PW SURPLUS/DEFICIT	160,691.70	189,599.00
TOTAL ROADS REVENUE	(14,682.42)	(115,776.00)
TOTAL ROAD EXPENSE	165,180.81	434,351.00

ROADS SURPLUS/DEFICIT	150,498.39	318,575.00
TOTAL STORM SEWER REVENUE	0.00	0.00
TOTAL STORM SEWER EXPENSE	3,654.30	0.00
STORM SEWER SURPLUS/DEFICIT	3,654.30	0.00
TOTAL WATER REVENUE	(323,335.27)	(566,500.00)
TOTAL WATER EXPENSE	306,456.01	517,803.00
WATER SURPLUS/DEFICIT	(16,879.26)	(48,697.00)
TOTAL SEWER REVENUE	(143,693.27)	(219,966.00)
TOTAL SEWER EXPENSE	127,604.96	197,002.00
SEWER SURPLUS/DEFICIT	(16,088.31)	(22,964.00)
TOTAL WASTE COLLECTION REV	(67,415.78)	(129,500.00)
TOTAL WASTE COLLECT EXP	58,735.75	113,124.00
WASTE COLLECT SURPLUS/DEF	(8,680.03)	(16,376.00)
TOTAL FCSS REVENUE	(100,935.00)	(114,312.00)
TOTAL FCSS EXPENSE	52,842.92	103,798.00
FCSS SURPLUS/DEFICIT	(48,092.08)	(10,514.00)
TOTAL PLAN REVENUE	(2,217.99)	(3,500.00)
TOTAL PLANNING EXPENSE	6,387.62	18,500.00
PLANNING SURPLUS/DEFICIT	4,169.63	15,000.00
TOTAL LAND REVENUE	0.00	0.00
TOTAL LAND EXPENSE	16,230.04	20,000.00
LAND SURPLUS/DEFICIT	16,230.04	20,000.00
TOTAL EDC REVENUE	(2,600.00)	(102,500.00)
TOTAL EDC EXPENSE	82,592.81	100,821.00
EDC SURPLUS/DEFICIT	79,992.81	(1,679.00)
TOTAL REC PROGRAM REVENUE	0.00	0.00
TOTAL REC PROGRAM EXPENSE	0.00	12,212.00
REC PROGRAM SURPLUS/DEFICIT	0.00	12,212.00
TOTAL PARKS REVENUE	(950.90)	(5,000.00)
TOTAL PARKS EXPENSE	90,904.64	135,676.00
PARKS SURPLUS/DEFICIT	89,953.74	130,676.00
TOTAL CULTURE EXPENSE	15,597.65	18,925.00
CULTURE SURPLUS/DEFICIT	15,597.65	18,925.00
TOTAL MISC EXPENSE	3,271.75	12,426.00
MISC SURPLUS/DEFICIT	3,271.75	12,426.00
TOTAL SURPLUS/DEFICIT	(568,808.76)	0.00

*** End of Report

North Zone Update on COVID-19

August 11, 2020

Alberta Health Services

Our Efforts to Contain COVID-19 in the North Zone

We would like to thank you for your continued efforts to keep your communities safe and help reduce the spread of COVID-19 over the last few months.

Alberta Health and Alberta Health Services (AHS) have confirmed 658 cases of COVID-19 in the North Zone, with 116 currently listed as active on August 10. There are currently a total of 11,687 confirmed cases in Alberta, with 1,090 currently listed as active.

COVID-19 case information is updated Monday to Friday between 3:30 p.m. and 4 p.m. at www.alberta.ca/covid.

On July 27, 2020, our North Zone Emergency Operations Centre (ZEOC) was re-activated to respond to an increase in COVID-19 cases in the North Zone, and across the province. In coordination with the provincial AHS Emergency Command Centre, the ZEOC continues to coordinate all clinical and clinical support resources to respond to the COVID-19 situation as it evolves.

Masking

All AHS staff are required to mask in all patient care areas and in any area where the two metre physical distance cannot be maintained from others, including co-workers, visitors, and members of public or volunteers. This applies to all zones, and all AHS or subsidiary facilities (clinical and corporate).

We also recognize municipalities may be discussing implementing indoor mandatory masking in public spaces within their communities. Here are two documents to help inform your decision-making:

The first was prepared by the Alberta Health Service's Scientific Advisory Group (SAG), which is comprised of clinicians, researchers and other experts who review emerging evidence and provide research informed guidance. This review focuses on the effectiveness of wearing masks to reduce spread of COVID-19 in the community: https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-sag-mask-use-in-community-rapid-review.pdf

The second document is an update released by the World Health Organization: https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak. This updated version includes a section on advice to decision makers on the use of masks for healthy people in community settings.

Supporting our communities
Though the province continues to gradually re-launch, it is clear that the health risk posed by this pandemic has not gone away.

We remain committed to supporting our communities, residents and patients. This includes some of our North Zone AHS staff who are currently providing on-site support at Heimstaed Lodge in La Crete, in response to the facility's outbreak. The facility has implemented outbreak control measures.

Outbreak locations can be found at https://www.alberta.ca/covid-19-alberta-data.aspx. Locations are updated Tuesdays and Fridays each week.

Return to school in September
Recently, the Government of Alberta announced its return to school plans for the 2020-2021 school year. Measures include mandatory masking for Grade 4 to 12 students and staff where physical distancing cannot be maintained, including on school buses.

For more information about these plans, please visit https://www.alberta.ca/guidance-documents.aspx. Please check back frequently as these documents are regularly updated.

Testing for all Albertans
We continue to encourage all Albertans to get tested, whether they're symptomatic or not. To book an appointment, visit www.ahs.ca/covid or call HealthLink at 811.

Taking Care of Your Mental Health
AHS is here to support you. If you need help managing health, work and life challenges, you can access support services and resources such as Text4Hope; a free daily text messaging service that helps people identify and adjust the negative thoughts, feelings and behaviours a pandemic might be expected to provoke. To subscribe text COVID19HOPE to 393939.

A full list of resources available to help Albertans can be found here.

COVID-19 case information
We encourage you to continue monitoring the Alberta Health COVID-19 interactive relaunch status map at https://www.alberta.ca/maps/covid-19-status-map.html. The relaunch status map shows the level of risk in regions and information about local health measures. It also shows the rate of COVID-19 cases and the number of active cases. This map is the source of truth for COVID-19 case information. To protect and respect patient privacy, no further case information is provided.

We also suggest communities take advantage of Alberta Health's email notification system where you can sign up to receive notifications if there is a change in your region's COVID status. Information on this service can be found here: **https://www.alberta.ca/covid-19-status-notification.aspx**

Many resources available
Please continue visiting the **Government of Alberta website** as well as the **AHS website** if you have questions about the relaunch, public health restrictions or COVID-19. Assistance is also available through the Government of Alberta's Provincial Operations Centre by calling 1-866-618-2362.

Thank you all
On behalf of the Senior Leadership Team for the North Zone we thank you for your continued support and all that you do in your communities.

We will continue to offer regular communications as the situation develops and changes.

Greg Cummings, Chief Zone Officer, North Zone

Dr. Albert Harmse, Acting Zone Medical Director

Dr. Kathryn Koliaska, Lead, Medical Officer of Health, North Zone

Notifications

COVID-19: Alberta is in Stage 2 of relaunch. Continue acting safely to prevent the spread while supporting Alberta businesses. Find out how.

Alberta

Aug 04, 2020

Media inquiries

School health measures now include mandatory masks

As part of a number of new school safety measures to combat COVID-19, mask use for Grade 4 to 12 students, and all school staff, will be mandatory when school returns for the 2020-21 year.

While mandatory mask use is for students in Grades 4 to 12 and all staff, all students and staff in public, separate, Francophone, charter and independent schools will receive two reusable masks from Alberta's government. More than 1.6 million masks will be distributed to 740,000 students and 90,000 staff. Additional single-use masks will be available at schools, if required.

Mask use will be mandatory for staff and teachers in all settings where physical distancing cannot be maintained. Students will be required to wear them in all shared and common areas such as hallways and on buses. Exemptions will be made for students and staff who are unable to wear a mask due to medical or other needs.

Mask use for kindergarten to Grade 3 students will continue to be optional. Mask use for younger children is a challenge due to difficulties with proper fit and compliance. In addition, evidence shows that children under 10 may be less likely than older children or adults to transmit COVID-19.

> "The safety of our staff and students continues to be my number 1 priority. Since cancelling in-person classes in March and developing our school re-entry plan, we have been clear that we would continue to adapt our guidelines as necessary based on current medical advice. These new safety measures will help prevent the spread of COVID-19 in our schools, and we will continue to work with our school authorities to ensure they are equipped for a successful start to the school year."
>
> *Adriana LaGrange, Minister of Education*

(10)

"After reviewing the emerging evidence, it is clear that masks can play an important role in limiting the spread of COVID-19. I am not making this updated recommendation lightly, but acting on the best current evidence available. While masks are important, I want to stress that they are only one of the many public health measures in place to limit the spread of COVID-19 and protect the health of students, staff and families."

Dr. Deena Hinshaw, Chief Medical Officer of Health for Alberta

"CASS' board of directors appreciates the government's commitment to adapting Alberta's health guidelines as new medical information becomes available and for ensuring school divisions are receiving the protective equipment they need for a successful transition back to school. This announcement clearly demonstrates Alberta Education's willingness to take the necessary steps to support the safety of staff and students. We appreciate their continued collaboration and support as we approach the beginning of a new school year."

Bevan Daverne, president, College of Alberta School Superintendents

Alberta's government remains committed to adjusting the school re-entry guidelines based on current medical advice. The chief medical officer of health has been studying the evidence around masking in schools, and this decision is a direct result of evolving medical advice.

Face shields

School staff will receive one reusable face shield for their use in the schools. Shield use is at the discretion of the individual staff member. Plastic face shields can help reduce exposure but are not equivalent to masks. A mask must still be worn while wearing a face shield.

Hand sanitizer

About 466,000 litres of hand sanitizer will be distributed between all school authorities. The specific volume provided to an individual school authority will be based on student population.

Thermometers

Each school will receive two contactless thermometers to assist with managing student and staff health. Thermometer use will be at the discretion of the school authority.

Staff testing

Alberta Health and Alberta Health Services are working hard to expand testing capacity and reduce turnaround times for testing, including in-school staff, teachers and students, so that anyone with symptoms or close contacts of cases can be rapidly tested and receive test results promptly.

All supplies will be distributed to school authorities by the beginning of the 2020-21 school year. Authorities will then distribute to individual schools, staff and/or students based on the needs of their own communities.

Provincial health guidance for a safe return to school will continue to evolve as necessary to reflect the latest evidence on the nature of the COVID-19 pandemic.

Individual school authorities are developing return-to-school plans that meet the needs of their own communities. These plans are based on direction provided under the provincial school re-entry plan, and supporting health guidance documents.

Alberta's Recovery Plan is a bold, ambitious long-term strategy to build, diversify, and create tens of thousands of jobs now. By building schools, roads and other core infrastructure we are benefiting our communities. By diversifying our economy and attracting investment with Canada's most competitive tax environment, we are putting Alberta on a path for a generation of growth. Alberta came together to save lives by flattening the curve and now we must do the same to save livelihoods, grow and thrive.

Quick facts

- Alberta's government announced students and staff would return to school under scenario 1 – near-normal daily operations with health measures – on July 21.
- School authorities are required to be prepared to move between the three scenarios outlined in the provincial school re-entry plan. Changes to scenarios will be determined by Alberta Education.

Related information

- Alberta's Return to School Plan

Multimedia

- Watch the news conference

Media inquiries

- *Colin Aitchison*
  780-940-0952

  Press Secretary, Education

Advice on the use of masks in the context of COVID-19

Interim guidance
6 April 2020

World Health Organization

Background

This document provides advice on the use of masks in communities, during home care, and in health care settings in areas that have reported cases of COVID-19. It is intended for individuals in the community, public health and infection prevention and control (IPC) professionals, health care managers, health care workers (HCWs), and community health workers. It will be revised as more data become available.

Current information suggests that the two main routes of transmission of the COVID-19 virus are respiratory droplets and contact. Respiratory droplets are generated when an infected person coughs or sneezes. Any person who is in close contact (within 1 m) with someone who has respiratory symptoms (coughing, sneezing) is at risk of being exposed to potentially infective respiratory droplets. Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission (contact transmission).[1]

WHO has recently summarized reports of transmission of the COVID-19 virus and provided a brief overview of current evidence on transmission from symptomatic, pre-symptomatic, and asymptomatic [a] people infected with COVID-19 (full details are provided in WHO COVID-19 Situation report 73).[2]

Current evidence suggests that most disease is transmitted by symptomatic laboratory confirmed cases. The incubation period for COVID-19, which is the time between exposure to the virus and symptom onset, is on average 5-6 days, but can be as long as 14 days. During this period, also known as the "pre-symptomatic" period, some infected persons can be contagious and therefore transmit the virus to others.[3-8] In a small number of reports, pre-symptomatic transmission has been documented through contact tracing efforts and enhanced investigation of clusters of confirmed cases.[3-8] This is supported by data suggesting that some people can test positive for COVID-19 from 1-3 days before they develop symptoms.[9,10]

Thus, it is possible that people infected with COVID-19 could transmit the virus before symptoms develop. It is important to recognize that pre-symptomatic transmission still requires the virus to be spread via infectious droplets or through touching contaminated surfaces. WHO regularly monitors all emerging evidence about this critical topic and will provide updates as more information becomes available.

In this document medical masks are defined as surgical or procedure masks that are flat or pleated (some are shaped like cups); they are affixed to the head with straps. They are tested according to a set of standardized test methods (ASTM F2100, EN 14683, or equivalent) that aim to balance high filtration, adequate breathability and optionally, fluid penetration resistance. This document does not focus on respirators; for guidance on use of respirators see IPC guidance during health care when COVID-19 infection is suspected.[11]

Wearing a medical mask is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19. **However, the use of a mask alone is insufficient to provide an adequate level of protection, and other measures should also be adopted.** Whether or not masks are used, maximum compliance with hand hygiene and other IPC measures is critical to prevent human-to-human transmission of COVID-19. WHO has developed guidance on IPC strategies for home care[12] and health care settings[11] for use when COVID-19 is suspected.

Community settings

Studies of influenza, influenza-like illness, and human coronaviruses provide evidence that the use of a medical mask can prevent the spread of infectious droplets from an infected person to someone else and potential contamination of the environment by these droplets.[13] There is limited evidence that wearing a medical mask by healthy individuals in the households or among contacts of a sick patient, or among attendees of mass gatherings may be beneficial as a preventive measure.[14-23] However, there is currently no evidence that wearing a mask (whether medical or other types) by healthy persons in the wider community setting, including universal community masking, can prevent them from infection with respiratory viruses, including COVID-19.

Medical masks should be reserved for health care workers. The use of medical masks in the community may create a false sense of security, with neglect of other essential measures, such as hand hygiene practices and physical distancing, and may lead to touching the face under the masks and under the eyes, result in unnecessary costs, and take

[a] An asymptomatic laboratory-confirmed case is a person infected with COVID-19 who does not develop symptoms. Asymptomatic transmission refers to transmission of the virus from a person, who does not develop symptoms. The true extent of asymptomatic infections will be determined from serologic studies.

13

masks away from those in health care who need them most, especially when masks are in short supply.

Persons with symptoms should:

- wear a medical mask, self-isolate, and seek medical advice as soon as they start to feel unwell. Symptoms can include fever, fatigue, cough, sore throat, and difficulty breathing. It is important to note that early symptoms for some people infected with COVID-19 may be very mild;
- follow instructions on how to put on, take off, and dispose of medical masks;
- follow all additional preventive measures, in particular, hand hygiene and maintaining physical distance from other persons.

All persons should:

- avoid groups of people and enclosed, crowded spaces;
- maintain physical distance of at least 1 m from other persons, in particular from those with respiratory symptoms (e.g., coughing, sneezing);
- perform hand hygiene frequently, using an alcohol-based hand rub if hands are not visibly dirty or soap and water when hands are visibly dirty;
- cover their nose and mouth with a bent elbow or paper tissue when coughing or sneezing, dispose of the tissue immediately after use, and perform hand hygiene;
- refrain from touching their mouth, nose, and eyes.

In some countries masks are worn in accordance with local customs or in accordance with advice by national authorities in the context of COVID-19. In these situations, best practices should be followed about how to wear, remove, and dispose of them, and for hand hygiene after removal.

Advice to decision makers on the use of masks for healthy people in community settings

As described above, the wide use of masks by healthy people in the community setting is not supported by current evidence and carries uncertainties and critical risks. WHO offers the following advice to decision makers so they apply a risk-based approach.

Decisions makers should consider the following:

1. **Purpose** of mask use: the rationale and reason for mask use should be clear– whether it is to be used for source control (used by infected persons) or prevention of COVID-19 (used by healthy persons)
2. Risk of **exposure** to the COVID-19 virus in the local context:
   - The population: current epidemiology about how widely the virus is circulating (e.g., clusters of cases versus community transmission), as well as local surveillance and testing capacity (e.g., contact tracing and follow up, ability to carry out testing).
   - The individual: working in close contact with public (e.g., community health worker, cashier)
3. **Vulnerability** of the person/population to develop severe disease or be at higher risk of death, e.g. people with comorbidities, such as cardiovascular disease or diabetes mellitus, and older people
4. **Setting** in which the population lives in terms of population density, the ability to carry out physical distancing (e.g. on a crowded bus), and risk of rapid spread (e.g. closed settings, slums, camps/camp-like settings).
5. **Feasibility**: availability and costs of the mask, and tolerability by individuals
6. **Type** of mask: medical mask versus nonmedical mask (see below)

In addition to these factors, potential advantages of the use of mask by healthy people in the community setting include reducing potential exposure risk from infected person during the "pre-symptomatic" period and stigmatization of individuals wearing mask for source control.

However, the following potential risks should be carefully taken into account in any decision-making process:

- self-contamination that can occur by touching and reusing contaminated mask
- depending on type of mask used, potential breathing difficulties
- false sense of security, leading to potentially less adherence to other preventive measures such as physical distancing and hand hygiene
- diversion of mask supplies and consequent shortage of mask for health care workers
- diversion of resources from effective public health measures, such as hand hygiene

Whatever approach is taken, it is important to develop a strong communication strategy to explain to the population the circumstances, criteria, and reasons for decisions. The population should receive clear instructions on what masks to wear, when and how (see mask management section), and on the importance of continuing to strictly follow all other IPC measures (e.g., hand hygiene, physical distancing, and others).

Type of Mask

WHO stresses that it is critical that medical masks and respirators be prioritized for health care workers.

The use of masks made of other materials (e.g., cotton fabric), also known as nonmedical masks, in the community setting has not been well evaluated. There is no current evidence to make a recommendation for or against their use in this setting.

WHO is collaborating with research and development partners to better understand the effectiveness and efficiency of nonmedical masks. WHO is also strongly encouraging countries that issue recommendations for the use of masks in healthy people in the community to conduct research on this critical topic. WHO will update its guidance when new evidence becomes available.

14

In the interim, decision makers may be moving ahead with advising the use of nonmedical masks. Where this is the case, the following features related to nonmedical masks should be taken into consideration:

- Numbers of layers of fabric/tissue
- Breathability of material used
- Water repellence/hydrophobic qualities
- Shape of mask
- Fit of mask

Home care

For COVID-19 patients with mild illness, hospitalization may not be required. All patients cared for outside hospital (i.e. at home or non-traditional settings) should be instructed to follow local/regional public health protocols for home isolation and return to designated COVID-19 hospital if they develop any worsening of illness.[7]

Home care may also be considered when inpatient care is unavailable or unsafe (e.g. capacity is limited, and resources are unable to meet the demand for health care services). Specific IPC guidance for home care should be followed.[3]

Persons with suspected COVID-19 or mild symptoms should:

- Self-isolate if isolation in a medical facility is not indicated or not possible
- Perform hand hygiene frequently, using an alcohol-based hand rub if hands are not visibly dirty or soap and water when hands are visibly dirty;
- Keep a distance of at least 1 m from other people;
- Wear a medical mask as much as possible; the mask should be changed at least once daily. Persons who cannot tolerate a medical mask should rigorously apply respiratory hygiene (i.e. cover mouth and nose with a disposable paper tissue when coughing or sneezing and dispose of it immediately after use or use a bent elbow procedure and then perform hand hygiene.)
- Avoid contaminating surfaces with saliva, phlegm, or respiratory secretions.
- Improve airflow and ventilation in their living space by opening windows and doors as much as possible.

Caregivers or those sharing living space with persons suspected of COVID-19 or with mild symptoms should:

- Perform hand hygiene frequently, using an alcohol-based hand rub if hands are not visibly dirty or soap and water when hands are visibly dirty;
- Keep a distance of at least 1 meter from the affected person when possible;
- Wear a medical mask when in the same room as the affected person;
- Dispose of any material contaminated with respiratory secretions (disposable tissues) immediately after use and then perform hand hygiene.
- Improve airflow and ventilation in the living space by opening windows as much as possible.

Health care settings

WHO provides guidance for the use of PPE, including masks, by health care workers in the guidance document: Rational use of PPE in the context of COVID-19.[24] Here we provide advice for people visiting a health care setting:

Symptomatic people visiting a health care setting should:

- Wear a medical mask while waiting in triage or other areas and during transportation within the facility;
- Not wear a medical mask when isolated in a single room, but cover their mouth and nose when coughing or sneezing with disposable paper tissues. Tissues must be disposed of appropriately, and hand hygiene should be performed immediately afterwards.

Health care workers should:

- Wear a medical mask when entering a room where patients with suspected or confirmed COVID-19 are admitted.
- Use a particulate respirator at least as protective as a US National Institute for Occupational Safety and Health-certified N95, European Union standard FFP2, or equivalent, when performing or working in settings where aerosol-generating procedures, such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy are performed.
- Full infection prevention and control guidance for health care workers is provided here.

One study that evaluated the use of cloth masks in a health care facility found that health care workers using cotton cloth masks were at increased risk of infection compared with those who wore medical masks.[25] Therefore, cotton cloth masks are not considered appropriate for health care workers. As for other PPE items, if production of cloth masks for use in health care settings is proposed locally in situations of shortage or stock out, a local authority should assess the proposed PPE according to specific minimum standards and technical specifications.

Mask management

For any type of mask, appropriate use and disposal are essential to ensure that they are effective and to avoid any increase in transmission.

The following information on the correct use of masks is derived from practices in health care settings

- Place the mask carefully, ensuring it covers the mouth and nose, and tie it securely to minimize any gaps between the face and the mask.
- Avoid touching the mask while wearing it.
- Remove the mask using the appropriate technique: do not touch the front of the mask but untie it from behind.
- After removal or whenever a used mask is inadvertently touched, clean hands using an alcohol-based hand rub or soap and water if hands are visibly dirty.
- Replace masks as soon as they become damp with a new clean, dry mask.
- Do not re-use single-use masks.
- Discard single-use masks after each use and dispose of them immediately upon removal.

15

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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16

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COVID-19 Scientific Advisory Group Rapid Response Report

Key Research Question: What is the effectiveness of wearing medical masks, including home-made masks, to reduce the spread of COVID-19 in the community? [Updated June 19, 2020]

Context

- On June 5th, 2020, the WHO, despite a limited evidence base, provided guidance on the continuous use of medical masks by health workers and caregivers in areas of known or suspected community transmission regardless of whether direct care to COVID-19 patients is being provided. In addition they provided guidance to decision makers using a risk based approach for the use of masks in areas with community transmission of COVID-19 when physical distancing is difficult (ie. public transit, shops, or other confined or crowded spaces).
- On May 20, 2020, the Public Health Agency of Canada recommended that non-medical masks be used in settings where it is not possible to maintain a 2-metre physical distance. The federal transportation minister then mandated mask use on planes, rail transport, and ships.
- The government of Alberta has initiated distribution of 20 million, single-use non-medical masks to the community which appear to be of high grade (with a 3 layer design, purporting a 96% filtration rate for particles up to 3 um and Delta-R 1.7 which would meet FFP2 requirements).
- Community mask use is now either encouraged or mandatory in over 80 countries, with many jurisdictions encouraging but not mandating the use of cloth masks; however, some countries such as Australia and New Zealand continue to not recommend community masking and have achieved low rates of COVID activity despite the lack of this particular intervention.
- Shortages of medical (procedure, surgical masks) masks and N95 masks for health care workers persist globally and nationally.
- With a focus on recovery and relaxation of social distancing in the context of the stabilization of the initial wave of the pandemic, the general population is returning to community and workplace settings where social distancing will not always be possible, which is driving interest in, and controversies around the use of cloth and home-made masks.

Key Messages from the Evidence Summary

- As medical masks are often bundled with other IPC interventions and have variable compliance, clinical trials on the effectiveness of medical masks have been challenging. Systematic reviews of randomized controlled trials in health care settings have not demonstrated a significant reduction in acute respiratory infections, (ARIs), ILIs or laboratory confirmed viral infections with medical mask use although it is acknowledged there were methodological flaws and smaller underpowered studies in the data analyzed.
- There is a paucity of clinical evidence in favor of using medical masks in the community, with multiple randomized trials demonstrating mixed results which when pooled demonstrate no significant reduction in acute respiratory infections (ARIs), ILIs or laboratory confirmed viral infections. There are some lower quality studies showing a reduction in viral infection rates in households, in transmission of viral respiratory infections in the context of mass gatherings, and in university residences when combined with hand hygiene interventions.
- However, while systematic reviews of randomized clinical trials fail to show significant benefit with medical mask use in community settings, more observational and case-control studies

(both at higher risk of bias), have suggested that masks are protective.

- The reasons for the lack of significant reduction for ARIs in the randomized trials is complex and may include: study design, setting, and human factors associated with wearing masks including low compliance with mask wearing, lack of concomitant hand hygiene, inoculation via the conjunctiva, frequent facial touching and mask adjustment leading to inoculation events, risk compensation behaviours, and self-contamination with inappropriate mask doffing. These possibilities have not been rigorously assessed.
- Laboratory studies investigating the efficacy of masks in filtering viral particles as well as studies in medical settings with laboratory based endpoints for bacterial respiratory pathogens (*Pseudomonas aeruginosa and Mycobacterium tuberculosis*) point to a theoretical benefit to medical mask use as a form of source control (protecting others from the wearer). There are no laboratory studies with SARS-CoV-2 and only one looking at other human coronaviruses.
- There are modelling studies and ecological data suggesting a benefit to medical mask use in the community via a reduction in viral transmission rates (R0) across wide ranges of community transmission levels. While these models are suggestive, they have significant inherent bias based on multiple assumptions including assumptions around mask efficacy in preventing transmission, and bundled interventions.
- Based on lab-based bioaerosol and NaCl aerosol studies, medical masks are superior to homemade cloth masks, but non-medical masks and optimally constructed home-made masks may offer some protection in reducing dispersion of droplets. Laboratory-based studies are of highly variable quality, with only a few studies using industry approved filtration efficiency testing methods.
- The newly released guidance from the World Health Organization suggests decision makers advising on non-medical mask use should take into consideration features of filtration efficiency (FE), breathability, number (and combination) of materials used, shape, coating and maintenance of cloth masks. The WHO suggests minimum Q (filter quality factor) score of the material chosen of 3 (three) based on expert consensus and engineering science and industry standards. They further suggest an optimal combination of material for non-medical masks should include three layers:

  1) an innermost layer of a hydrophilic material (e.g. cotton or cotton blends);

  2), an outermost layer made of hydrophobic material (e.g., polypropylene, polyester, or their blends) and

  3) a middle hydrophobic layer of synthetic non-woven material such as polypropylene, or a cotton layer which may enhance filtration or retain droplets

- There is limited evidence of harms related to community mask wearing with no studies identified that have systematically looked at potential harms. Such harms could include behavioral modifications such as risk compensation/non-adherence to social distancing or optimal hand hygiene practices, self-contamination, induction of facial rashes, and increasing real or perceived breathing difficulties. There are also concerns about poor compliance or tolerance of masks in children or those with cognitive challenges and communication difficulties.
- The only clinical study to examine cloth mask efficacy in preventing repiratory virus transmission was in a healthcare setting, comparing continuous cloth or medical masks use to usual practice. Among the comparator (usual practice) group, a large percentage of individuals used medical masks for part of the time. The study had significant methodological issues but did demonstrate

a significantly higher respiratory viral infection event rate of HCW using a 2-ply cotton cloth masks when compared with the use of standard practice. (Macintyre et al, 2015)

- Pre-symptomatic transmission and asymptomatic transmission of SARS-CoV-2 have been described but the degree to which they contribute to community spread is unclear, At this point, there is no direct evidence that the use of a medical or homemade cloth mask or the wider use of masks in the community significantly reduces this risk. For more information, refer to the Asymptomatic Transmission of SARS-CoV-2 rapid review.

Committee Discussion

There was agreement that although the evidence base is poor, the use of masks in the community is likely to be useful in reducing transmission from community based infected persons, particularly those with symptomatic illness. One member was very concerned, and there was some agreement, that a focus on mask-use could lead to a reduced sense of personal risk, i.e. risk compensation. There is some evidence demonstrating less attention to social distancing and hand hygiene as the mainstays of prevention in a community setting. It was noted that while there is evidence from observational studies that medical masks may reduce ARIs and ILIs in health care settings, that there is no clinical trial evidence that use of non-medical or medical masks in the community reduces viral transmission.

There was agreement that there is insufficient information to make a firm recommendation for the use of home-made (non-medical) masks in the community. In the face of difficulties in quantifying risk of asymptomatic transmission and potential benefit outweighing the harms of wider use of home-made masks in the community, several committee members felt strongly that we should carefully balance the recommendation for community use to reflect the precautionary principle as well as evidence gaps. One member felt that to achieve the maximum population benefit, the majority of people should be wearing masks in settings where physical distancing cannot be maintained. To account for these controversies, which were mostly based on uncertainties in the evidence, a Research Gaps section has been added.

There was concern that we may be over-emphasizing the potential harm associated with the use of non-medical masks in the community, and there was general but not unanimous agreement to reduce this emphasis and focus on the need for systematic research looking at benefits and harms with clinical outcomes.

This update was predominantly based on the WHO revised advice, but it was noted that there is little new evidence aside from information on filtration efficiency of different home-made masks since our last update. There remains a lack of data demonstrating benefit of cloth masks as currently used in the community, beyond lab based filtration studies. There remains a significant disconnect between RCTs and observational study results of community mask use, and significant confounding and bias in ecologic trials. Since the last version of this review, there is very little new data except new syntheses of previous studies, new modeling studies, and some new collations of cloth filtration characteristics. One reviewer commented on the system level issues with supporting medical and non-medical mask use in the community as important elements in addition to the patient level harms.

One reviewer highlighted the importance of identifying specific level of guidance and evidence provided by the updated advice from the WHO. As little additional evidence was highlighted in this review, the emphasis of the WHO report was discussed: "the process of interim guidance development during emergencies consists of a transparent and robust process of evaluation of the available evidence on benefits and harms, synthesized through expedited systematic reviews and expert consensus-building facilitated by methodologists. This process also considers, as much as possible, potential resource implications, values and preferences, feasibility, equity, ethics and research gaps" (WHO, June 5,

2020). Therefore more specific description of the document, recommendations and the risk-based approach to community mask use with consideration of local epidemiology has been incorporated. (https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak)

Lastly, committee members felt that the research gaps section should better highlight the remaining uncertainties regarding mask use in the community, and how they might be addressed. This would include better information about optimal mask construction, as well as more robust evidence about their impact on clinically relevant measures of benefit and harm. Finally, additional details about compliance with medical and non-medical mask use in the community would be helpful.

Recommendations

1. In light of concerns around PPE shortages, medical masks should continue to be prioritized for HCWs in direct patient care roles. HCWs should continue to wear medical masks whenever providing direct patient care and whenever social distancing is not possible in health care settings.
2. In the community, medical mask use should be prioritized for those with any symptoms suggestive of COVID-19, as a form of source control. Community caregivers of potentially infectious COVID-19 patients and care providers for those who are more vulnerable to severe infection in the household setting should also wear medical or well-constructed non-medical masks as a form of protection.
3. In settings where social distancing cannot be maintained, medical masks or high-quality non-medical masks should be encouraged as a form of protection for those vulnerable to severe COVID-19 infection outcomes. Vulnerable populations include those over 60 and those with comorbidities or immunosuppression.
4. Evaluation of the extent of community transmission of SARS-CoV-2 is required to continually assess the risks and benefits of community mask use in various situations, although there is insufficient evidence to recommend specific epidemiologic thresholds for this purpose. This is consistent with WHO guidance which advises decision makers to apply a risk-based approach focusing on specific criteria when considering or encouraging the use of masks for the general public that incorporates consideration of local epidemiology. The WHO encourages use of a well-constructed non-medical mask, designed according to the available evidence from materials engineering science, as a possible method of reducing risk of transmission of COVID-19 when social distancing is not possible. Situations where this may be particularly relevant include: on public transportation, workplaces necessitating close proximity to other workers or the public, or when entering and exiting public buildings.
5. In light of widespread interest in masks and anecdotal evidence of potentially harmful, inappropriate use by the public, health officials should widely communicate the need for both optimal mask construction and mask "etiquette". It is important to strengthen the messaging that their use not replace the need for maintaining social distancing and hand hygiene as more important strategies to prevent transmission of COVID-19; and the need to not touch the mask, to replace when soiled or wet and ensure appropriate laundering. Current advice on when and how to wear home-made or non-medical masks is available at: https://www.albertahealthservices.ca/topics/Page16997.aspx#prev

Research Gaps

1. While there is some additional evidence, there is a need for further research into the optimal construction and fabric composition of home-made or non-medical masks and their efficacy in protection against transmission or acquisition of SARS-CoV-2.
2. Currently, we only have theoretical benefit demonstrated in laboratory studies of the filtration capabilities of cloth masks. Further studies assessing population benefits and harms of home-made (non-medical) masks are urgently required. These studies should include RCTs that assess clinical outcomes.
3. Studies evaluating the frequency and compliance of mask use by individuals in clinical and community settings, potentially using longitudinal surveys and/or contact tracing data would be of benefit while awaiting more rigorous trial results.

Summary of Evidence

Since the last update on April 21, 2020, the World Health Organization has provided new guidance on the use of masks in the community. There has also been a significant number of new studies examining their use. However, there is only one new clinical study. The remainder of the studies have been multiple new systematic reviews and meta-analyses of previously published clinical studies, modelling studies, and laboratory-based studies of various homemade materials.

International guidelines and practices for use of masks in the community setting:

World Health Organization guidance on the use of masks in the community

On June 5th, the WHO provided an update to prior guidance from April 6th. 2020.
The process of interim guidance development during emergencies consists of a transparent and robust process of evaluation of the available evidence on benefits and harms, synthetized through expedited systematic reviews and expert consensus-building facilitated by methodologists. This process also considers, as much as possible, potential resource implications, values and preferences, feasibility, equity, ethics and research gaps (https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak).

The primary differences with this update included:
Updated information on transmission from symptomatic, pre-symptomatic and asymptomatic people infected with COVID-19, as well as an update of the evidence of all sections of this document;
• New guidance on the targeted continuous use of medical masks by health workers working in clinical areas in health facilities in geographical areas with community transmission1 of COVID-19;
• Updated guidance and practical advice for decision-makers on the use of medical and non-medical masks by the general public using a risk-based approach;
• New guidance on non-medical mask features and characteristics, including choice of fabric, number and combination of layers, shape, coating and maintenance. **(WHO, June 2020)**
(see Table 1 in the Appendix).

As it relates to the: Targeted continuous medical mask use by health workers in areas of known or suspected COVID-19 community transmission, the updated WHO guidance document suggests the following guidance: (WHO, June 5, 2020)

In the context of locations/areas with known or suspected community transmission or intense outbreaks

of COVID-19, WHO provides the following guidance:
• Health workers, including community health workers and caregivers, who work in clinical areas should continuously wear a medical mask during their routine activities throughout the entire shift; apart from when eating and drinking and changing their medical mask after caring for a patient who requires droplet/contact precautions for other reasons;
• According to expert opinion, it is particularly important to adopt the continuous use of masks in potential higher transmission risk areas including triage, family physician/GP practices, outpatient departments, emergency rooms, COVID-19 specified units, haematological, cancer, transplant units, long-term health and residential facilities;
• When using medical masks throughout the entire shift, health workers should make sure that:
    - the medical mask is changed when wet, soiled, or damaged;
    - the medical mask is not touched to adjust it or displaced from the face for any reason; if this happens, the mask should be safely removed and replaced; and hand hygiene performed;
    - the medical mask (as well as other personal protective equipment) is discarded and changed after caring for any patient on contact/droplet precautions for other pathogens;
• Staff who do not work in clinical areas do not need to use a medical mask during routine activities (e.g., administrative staff);
• Masks should not be shared between health workers and should be appropriately disposed of whenever removed and not reused;
• A particulate respirator at least as protective as a US National Institute for Occupational Safety and Health-certified N95, N99, US FDA surgical N95, European Union standard FFP2 or FFP3, or equivalent, should be worn in settings for COVID-19 patients where AGPs are performed (see WHO recommendations above). In these settings, this includes its continuous use by health workers throughout the entire shift, when this policy is implemented.

To be fully effective, continuous wearing of a medical mask by health workers, throughout their entire shift, should be implemented along with other measures to reinforce frequent hand hygiene and physical distancing among health workers in shared and crowded places where mask use may be unfeasible such as cafeterias, dressing rooms, etc.

The following potential harms and risks should be carefully taken into account when adopting this approach of targeted continuous medical mask use, including:
• self-contamination due to the manipulation of the mask by contaminated hands;
• potential self-contamination that can occur if medical masks are not changed when wet, soiled or damaged;
• possible development of facial skin lesions, irritant dermatitis or worsening acne, when used frequently for long hours
• masks may be uncomfortable to wear;
• false sense of security, leading to potentially less adherence to well recognized preventive measures such as physical distancing and hand hygiene;
• risk of droplet transmission and of splashes to the eyes, if mask wearing is not combined with eye protection;
• disadvantages for or difficulty wearing them by specific vulnerable populations such as those with mental health disorders, developmental disabilities, the deaf and hard of hearing community, and children;
• difficulty wearing them in hot and humid environments.(**WHO, June 5, 2020**)

As it relates to the WHO updated Advice to decision makers on the use of masks for the general public

WHO advises decision makers to apply a risk-based approach focusing on the following criteria when considering or encouraging the use of masks for the general public:

Taking into account the available studies evaluating pre- and asymptomatic transmission, a growing compendium of observational evidence on the use of masks by the general public in several countries, individual values and preferences, as well as the difficulty of physical distancing in many contexts, WHO has updated its guidance to advise that to prevent COVID-19 transmission effectively in areas of community transmission, governments should encourage the general public to wear masks in specific situations and settings as part of a comprehensive approach to suppress SARS-CoV-2 transmission . WHO advises decision makers to apply a risk-based approach focusing on the following criteria when considering or encouraging the use of masks for the general public:

1. Purpose of mask use: if the intention is preventing the infected wearer transmitting the virus to others (that is, source control) and/or to offer protection to the healthy wearer against infection (that is, prevention).
2. Risk of exposure to the COVID-19 virus:
- due to epidemiology and intensity of transmission in the population: if there is community transmission and there is limited or no capacity to implement other containment measures such as contact tracing, ability to carry out testing and isolate and care for suspected and confirmed cases.
- depending on occupation: e.g., individuals working in close contact with the public (e.g., social workers, personal support workers, cashiers).
3. Vulnerability of the mask wearer/population: for example, medical masks could be used by older people, immunocompromised patients and people with comorbidities, such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer and cerebrovascular disease.
4. Setting in which the population lives: settings with high population density (e.g. refugee camps, camp-like settings, those living in cramped conditions) and settings where individuals are unable to keep a physical distance of at least 1 metre (3.3 feet) (e.g. public transportation).
5. Feasibility: availability and costs of masks, access to clean water to wash non-medical masks, and ability of mask wearers to tolerate adverse effects of wearing a mask.
6. Type of mask: medical mask versus non-medical mask

Based on these criteria, (Table 1 in appendix) provides practical examples of situations where the general public should be encouraged to wear a mask and it indicates specific target populations and the type of mask to be used according to its purpose. The decision of governments and local jurisdictions whether to recommend or make mandatory the use of masks should be based on the above criteria, and on the local context, culture, availability of masks, resources required, and preferences of the population.

Masking recommendations
The following link provides a list of countries recommending or requiring community use of masks:
https://masks4all.co/what-countries-require-masks-in-public/
It is updated daily.

Mask provision
Foreseeing impending medical mask shortages, Taiwan enlisted multiple interventions to try to prevent them. These included: state-controlled production and distribution of medical masks with daily, individual, name-based rations of masks (at modest cost) distributed at local drugstore and free provision of masks for school-aged children. South Korea also implemented state control over manufacturing and now provides a weekly ration of two masks (https://www.nytimes.com/2020/04/01/opinion/covid-face-mask-shortage.html).

In Japan (https://english.kyodonews.net/news/2020/04/67ad0dfcd954-delivery-of-cloth-masks-from-govt-starts.html), Hong Kong (https://www.qmask.gov.hk/about/), and Singapore (https://www.gov.sg/article/when-should-i-wear-a-mask) mass-manufactured, re-usable, cloth masks are being provided to citizens. In Hong Kong, pre-registered, low-income families may also receive 5 disposable medical masks per week for 10 weeks at vending machine dispensers (https://finance.yahoo.com/news/world-development-mask-dispensers-live-133000505.html).

The city of Los Angeles is providing garment manufacturers with crude guidelines on sewing non-medical masks (https://www.dropbox.com/s/x9myr2t9mhxd4zo/COVID_Mask-Manufacturer-Packet.pdf?dl=0) that can then be sold to the public.

Current evidence on COVID-19 Transmission:
It is accepted that SARS-CoV-2 is transmitted via droplets (<5 μm) expelled when a patient sneezes or coughs. However, the exact distance droplets can travel has been called into question **(Bourouiba, 2020)**. Others have also posited the possibility of SARS-CoV-2 transmission through ordinary speech **(Asadi S et al, 2020)**. There is also increasing concern regarding pre-symptomatic, pauci-symptomatic, or rarely, asymptomatic transmission of COVID-19, wherein individuals have RT-PCR detectable SARS-CoV-2 from nasal or throat swabs prior to or without development of symptoms **(Bai et al. 2020, Chan et al. 2020, Pan et al. 2020, Kimball et al. 2020, Wei et al. 2020,** and **Li et al. 2020)**. It also appears that viral loads are highest during the early symptomatic phase **(To et al. 2002, Wolfel et al. 2020,** and **Bai et al. 2020)** or even the pre-symptomatic stage. Indeed, **He et al. 2020** infer that infectiousness may peak on or before symptom onset and through modelling, estimate that up to 44% of secondary cases were infected during the index cases' pre-symptomatic stage. Therefore, the main theoretical benefit of masks during the COVID-19 pandemic would be as a form of source control to minimize dispersion of the expelled viral particles from individuals unknowingly transmitting disease.

For more information, refer to the Asymptomatic Transmission of SARS-CoV-2 Rapid Review.

Clinical studies and systematic reviews examining use of medical masks to prevent transmission of COVID-19:
One new clinical study has examined masks for prevention of COVID-19 transmission in the community, specifically, in the household setting. **Wang Y et al, 2020** undertook a retrospective study of 335 people (124 families) to determine characteristics and practices of both the source case and their contacts that were predictors of secondary transmission. They determined that if one or more members of the household (either the primary case or their contacts) wore a mask *before* development of symptoms, there was a 79% reduction in transmission (OR=0.21, 95% CI: 0.06 to 0.79). In another study of 105 cases (imported from Wuhan to other centres) and 392 household contacts, the overall attack rate in households was 16.9%, but was 0% in households of 14 index patients who reportedly self isolated (used masks, dining separately, and residing alone within the home) upon (not before) symptom development (Wei Li et al, 2020).

Clinical evidence for the use of medical masks in mixed settings (clinical and community) prior to COVID-19 has been well summarized in three separate systematic reviews and meta-analyses **(Jefferson et al. 2011, Offeddu et al. 2017, Saunders-Hastings et al, 2017)**. Offeddu et al. focused only on health-care settings, Jefferson et al. 2011 and Saunders-Hasting et al. 2017 looked at mixed settings. All three reviews reported methodologic concerns related to the randomized trials that were often under-powered and prone to reporting biases. Offeddu et al, did a meta-analysis of RCTs comparing any mask (medical or N95) to no masks. They found that masks conferred significant protection against self-reported clinical respiratory illness (RR = 0.59; 95% CI: 0.46–0.77) and influenza-like illness (RR = 0.34; 95% CI: 0.14–0.82) but only a non-statistically significant effect against laboratory-confirmed viral infections. A meta-analysis of observational studies noted a protective effect of medical masks vs. no mask (OR = 0.13; 95% CI: 0.03–0.62) against SARS. Jefferson et al, 2011 undertook a meta-analysis of seven case-control studies (~50% of participants were not health care workers) with 3216 participants and found fewer acute respiratory infections with medical mask use, OR 0.32, 95% CI 0.26 to 0.39. Of all physical interventions (including hand hygiene, gowns and gloves), masks were the most effective. In a meta-analysis of three case-control studies (19% of the participants being in a household setting), Saunders-Hastings et al. found that medical masks provided a non-significant protective effect against pandemic influenza (OR = 0.53; 95% CI 0.16–1.71; I 2 = 48%).

Clinical evidence for the use of masks in the community setting (only) has also been examined, with three systematic reviews by **Brainard et al, 2020 (preprint), MacIntyre et al, 2015, and Barasheed et al, 2016.** Brainard et al, 2020 identified 31 different studies (including pre-post, cross-sectional, case-control, observational, and randomized controlled trials). 12 studies were RCTs. These authors found the evidence to be of low to very low certainty and concluded that "the evidence is not sufficiently strong to support widespread use of facemasks as a protective measure against COVID-19. However, there is enough evidence to support the use of facemasks for short periods of time by particularly vulnerable individuals when in transient higher risk situations." MacIntyre et al. 2015, identified 9 RCTs of facemasks in diverse settings (households and community), and with varied designs and interventions (ie. combination hand washing and facemasks). Due to the heterogeneity, no meta-analysis was undertaken. The results were inconclusive. A copy of the table summarizing these 9 articles is provided in **Table 2** of the **Appendix**. In general, the RCTs included use of a surgical grade facemask but the observational studies did not provide adequate description of the types of masks used.
Barasheed et al. 2016, pooled the results of 13 heterogeneously designed studies examining the effectiveness of medical masks at preventing variably defined acute respiratory infection endpoints arising during the Hajj pilgrimage. Based on studies which the authors deemed to be of "average" quality, they found a small, statistically significant benefit (RR 0.89, 95% CI 0.84-0.94). However, pooling of studies of vastly different design may be considered inappropriate from an analytic perspective and it is possible this small difference disappears when a more appropriate pooling is done.

Since the completion of the last review, multiple new systematic reviews, with or without meta-analyses, have been completed. They almost exclusively re-examined the studies already included in the reviews mentioned above.
Any setting:

- **Chu et al, 2020** did a systematic review and meta-analysis **of observational studies** (using frequentist, Bayesian meta-analysis, and random effects meta-regressions) to look at the impact of physical distancing, masks, and eye protection. Their analysis was limited to studies of coronaviruses (SARS-CoV-2, SARS-CoV, and MERS-CoV). They did not identify any

randomized controlled trials. They found any masks (N95, medical mask, or 12-16 layer cotton) reduced risk of infection (unadjusted n=10,170, RR 0.34, 95% CI 0.26-0.45; adjusted studied n=2647, aOR 0.15, 95% CI 0.07-0.34) when compared to no mask. When only medical *or* 12-16 layer cotton masks were compared with no mask, the protective effect was diminished but persisted (aOR 0·33, 95% CI 0·17–0·61). There was no comparison of medical masks to cotton masks. When only the 3 community-based studies were included, masks remained protective (RR 0.56, 95% CI 0.40-0.79). Using the GRADE category of evidence, the findings were deemed to be of low certainty. This study was limited by the observational nature of the studies included which are subject to significant bias.

- **Jefferson et al, 2020** (pre-print) updated their previous review looking at physical interventions to stop the spread of respiratory viruses, this time focusing only on **randomized and cluster randomized trials**. 14 trials assessed the impact of mask wearing. Looking at general population, there was no reduction in ILI cases (RR 0.93, 9% CI 0.83 to 1.05) nor in laboratory-confirmed influenza (RR 0.84, 95% CI 0.61-1.17). No benefit was identified in health care workers either.
- **Liang et al. (pre-print)** examined use of any type of mask in any setting in preventing respiratory virus transmission. In the subgroup of non-HCW, a protective effect was found with a pooled OR of 0.53 (95% CI=0.36 - 0.79), this effect persisted in both household (OR=0.60, 95% CI=0.37-0.97) and the non-household settings (OR=0.44, 95% CI=0.33-0.59). The RCTs included in this study scored 3 or 4/5 on the Jadad scale, but it should be noted that this a quality assessment tool whose use is discouraged by the Cochrane Collaboration with concerns of its ability to detect bias.
- **MacIntyre R and Chughtai AA, 2020** looked only at randomized controlled trials. Including eight trials in community settings, and concluded that when masks were used by ill individuals, their well contacts were protected. Of note, these findings were dissimilar from many others in that among health care workers in clinical settings, they found that only continual use of respirators was beneficial, with medical masks found to be less effective and cloth masks were even less effective than medical masks.

Community settings only:

- **Wei et al. (pre-print)** did a systematic review and meta-analysis of 8 RCTs examining any type of mask in the community setting. Masks lowered the risk of developing ILI (pooled RR=0.81, 95% CI: 0.70-0.95).
- In a pre-registered, rapid review using Bayseian analysis, **Pereski et al. (pre-print)** identified 21 studies examining incidence of ILI (variably reported) in the community. All masks types were considered. 1/11 RCTs and 6/10 observational studies found that masks reduced incidence of ILI. They found that while RCTs showed a moderate likelihood of a *small* effect of wearing medical masks in the community to reduce self-reported ILI, the risk of reporting bias was high. The evidence for reduction of clinically or lab-confirmed infection was equivocal. By contrast, observational studies showed that masks reduced incidence of ILI but there was a high risk of confounding and reporting bias. The difference in the findings between RCTs and observational studies was also noted previously by **Brainard et al.**

Cloth masks only:

- **Mondal et al. (pre-print)** looked at the utility of cloth masks in any setting. They included both clinical and non-clinical studies, in what can be more accurately described as a scoping review. They found two clinical studies, only one of which assessed the clinical effectiveness of cloth masks. This was the study by **MacIntyre et al, 2015** which is discussed later in this review. In the laboratory studies, cloth mask filtration efficiency was highly variable, between 3-95%, likely reflecting the highly variable materials and measurement techniques.

Laboratory based studies examining use of medical masks to prevent transmission of COVID-19:
Given the challenges of clinical studies, another approach has been to directly measure the efficacy of medical masks in both filtering exhaled respiratory viruses and in providing a barrier to entrance of pathogens.

In the only laboratory study to look at coronaviruses, **Leung et al, April 2020** found that coronaviruses could be detected in respiratory droplets (>5um) and aerosols (<5 uM) in 3/10 (30%) and 4/10 (40%) of samples collected without medical masks, respectively. They did not detect any virus in respiratory droplets or aerosols collected from participants wearing medical masks.

Multiple other studies have examined the use of masks for preventing spread of other respiratory pathogens. **Milton et al, 2013** found that medical masks reduced influenza viral copy numbers in exhaled samples by ~3-25 fold (depending on the size of the particle). **Johnson et al, 2009** could detect influenza in all samples of exhaled breath where a mask was not worn but detected no influenza virus by RT-PCR with medical masks. In two separate studies medical masks reduced the release of *Pseudomonas aeruginosa* in patients with cystic fibrosis both when worn for short **(Stockwell et al, 2018)** and longer durations **(Stockwell et al, 2018). Dharmadhikari et al, 2012**, examined the benefit of medical masks as a form of source control on a multi-drug resistant tuberculosis ward where exhaust air from patients is delivered to guinea pig exposure chambers. Compared to patients who did not wear a masks, patients who did wear a mask infected 56% fewer guinea-pigs (36/90 vs 69/90 infected guinea pigs).

Two studies have examined the effectiveness of medical masks to protect the wearer, as a barrier against viral bioaerosols. Ma et al, 2020 found that compared with one-layer of polyester, medical masks blocked 97.15% of avian influenza viral bioaerosols while a 4-layer homemade mask blocked 95.15%. The high efficacy rates of the masks may have been related to the unrealistically tight seals in the model used. **Makison-Booth et al, 2013** realistically adhered masks to the face of a mannequin and then measured the amount of viable live influenza virus from the air in front and behind of five different types of surgical masks. They found that medical masks reduced exposure to aerosolized influenza virus by approximately 6-fold.
Thus, the preponderance of lab-based studies (Milton et al 2013, Johnson et al, 2009, Stockwell et al. 2018, Stockwell et al. 2018, Dharmadhikari et al, 2012, and Leung et al, 2020) suggest the benefit of a mask is as a method of source control with reduction of the amount of respiratory virus released by exhaled particles. That is, the public would be protected from respiratory spread of infection from the mask wearer.

Other studies (modelling, ecological, anecdotal, etc) examining use of medical masks to prevent transmission of COVID-19:

Influenza transmission models:
Brienen et al, 2010 developed a population transmission model to explore the impact of population-wide mask use on an influenza pandemic. They assumed that the reduction in infection risk would be proportional to the reduction in exposure to the virus based on particle retention by the mask and mask coverage (number of people appropriately wearing masks). It is unknown if this assumption is valid. They concluded that masks could lower the basic reproduction number, at least delaying, if not containing, an influenza outbreak. A detailed transmission model by **Trachet et al, 2009;** however was less optimistic, concluding that while 10% of the population using N95 masks could result in a 20% reduction in H1N1, even 50% of the population wearing medical masks would only results in a 6%

reduction in number of cumulative cases. In their model, **Yan et al, 2019,** found that at a population-level compliance of 50%, all types of masks—except low-filtration surgical mask—could reduce prevalence of influenza outbreak to <5%. At a compliance rate of 80%, low-filtration surgical masks (not otherwise defined) could reduce prevalence by 50%.

COVID-19 models: In a model assessing various local interventions, **Tian et al, 2020 (preprint)** estimated reductions in the basic reproduction number *R*0 of SARS-CoV-2 with different interventions. Assuming masks reduce *R*0 by a factor $(1 - epm)^2$, where *e* is the efficacy of trapping viral particles inside the mask, and *pm* is the percentage of the population that wears masks – for example, if 50% of the population wears a mask and the mask has a 50% efficacy at trapping particles, *R*0 could drop to 1.35 (down from ~2.4). It is unknown if this assumption is valid.

Eikenberry et al. 2020 developed a mathematical model that adapted the SEIR model of Breinen et al. and Trachet et al. to the COVID19 pandemic epidemiologic parameters and then looked at the impact of varying mask efficacy and compliance rates on transmissions and epidemiologic outcomes (death, hospitalizations). They found that 80% coverage of masks that are only 20% effective could still reduce the effective transmission rate by 1/3. Applied to a case study of Washington state, this could translate into a reduction in mortality of 24-65%. **Javid et al, 2020 (pre-print)** created a simple, proof of principle, SIR model, assuming that masks reduced transmission by 8-16%. Like Eikenberry et al. where there was more mortality benefit seen in areas of lower transmission, Javid et al. noted a more substantial reduction on deaths when the effective R approached 1. Finally, **Worby et al, 2020 (pre-print)** created a SEIRD model to test various strategies for mask allocation (ie. different percentage of allocation to symptomatic vs asymptomatic individuals; or to the elderly population). First, they found that the more effective the mask, the lower the population uptake required. That is, deaths could be reduced by 65% with 15% coverage of a highly effective mask (75%) whereas they would be reduced by only 10% with 30% coverage with a low effectiveness mask (25% containment). In terms of mask allocation, they identified that prioritizing the elderly and maintaining a supply for identified infectious cases is a superior strategy to random distribution.

It should be noted that all the modelling studies listed vary the effectiveness of masks in the model; however, they do not assume that masks can carry harms that could outweigh benefits.

In an ecologic study, **Lo JY et al, 2005** found that in the setting of "community hygienic measures" promotion during the SARS 2003 epidemic in Hong Kong, where ~76% of individuals were wearing masks, the proportion of positive specimens of other respiratory viruses dropped significantly in 2003. A similar finding has been noted in Hong Kong since February 2020, where again mask use has increased with the COVID19 outbreak **(Leung et al, 2020). Kenyon et al. (pre-print)** compared countries who had implemented mask use vs no-mask use (as a binary outcome). At the time of the analysis, 8/49 countries promoted universal mask use. After adjusting for date of the first COVID-19 diagnosis in the country and testing intensity, they found that masking resulted in an average decrease of 326 cases per 1,000,000 inhabitants (linear coefficient -326, -601 to -51, p=0.021). These studies do not allow the effect of masks to be separated from other community measures, including social distancing with school closure, public space closures, hand hygiene, and household hygiene campaigns. When undertaking ecological comparisons, it should be noted that countries such as New Zealand, Australia, Denmark, and Switzerland have had success at containment of their epidemics without the use of universal masking.

There are also two case cluster reports outlining the benefits of community mask use. It is unclear if medical or non-medical masks were used. **Zhang et al, 2013** assessed transmission of influenza A virus on two flights from the United States to China. None of the 9 influenza-infected passengers, compared with 47% (15/32) of control-passengers wore a face mask. Unfortunately, this report does not include any information regarding the location of the other passenger relative to the index case. **Liu et al, 2020** report a case of a SARS-CoV-2 infected male who took two separate buses to return to his hometown. On the first 2-hour bus ride, he did not wear a mask and 5/39 passengers were infected. By contrast, on his second ride, a 50-minute ride, he wore a mask and 0/14 passengers were infected. While **Schwartz et al. 2020** do not focus on the use of a mask by the source case, the source case was masked during a flight from China to Toronto where no SARS-CoV-2 transmissions were identified.

Studies of cloth masks:

Clinical studies

The only clinical study of cloth masks is a cluster randomized trial of cloth masks at all times vs medical masks at all times (2 masks/8h) vs a standard practice arm in hospitals in Vietnam **(Macintyre et al, 2015)**. In this study, cloth mask users had higher rates of ILI compared with the control arm, RR=6.64, 95% CI 1.45 to 28.65 and more laboratory-confirmed virus, RR=1.72, 95% CI 1.01 to 2.94. Compared to medical masks, the RR for ILI was 13.25 in the cloth mask arm and 3.8 in the control (mixed) arm. A possible hypothesis for the worse outcome with cloth masks is that when they become wet, they are more likely to trap viral particles. Alternatively, there may be inadequate washing of the masks.

However, a methodologic concern was that the control arm consisted of high rates of mask wear. Specifically, in the control arm, (170/458) 37% used medical masks and (245/458) 53% used a combination of medical masks and cloth masks, with 24% of control arm participants wearing masks for more than 70% of working hours (versus 57% of participants in the other 2 arms adherent to masks for >70% of working hours). This renders the comparison to have been consistent cloth mask use, to consistent medical mask use, to inconsistent use of any mask type. Therefore, while the study may have conclusively shown the superiority of medical masks to cloth masks in preventing infection acquisition in a health-care setting, it cannot be used to reliably evaluate cloth masks to no masks in a community setting. Given the sudden interest in cloth-mask use, the authors published a response to their own article on March 30, 2020 **(MacIntyre et al. 2020)** wherein they state that HCW should not work without adequate PPE but if they choose to work with a cloth masks, thorough and daily disinfection is required to prevent potential harms. In another commentary, the same author **(MacIntyre CR and Hasanain SJ, 2020)** supports universal masking, stating "There is more evidence supporting face mask use in the community than hand hygiene including in RCTs which compare both interventions directly, so it is inconsistent to advocate hand hygiene as a sound principle but not masks."

Laboratory based studies

Several contemporary and historical studies have looked at whether homemade masks are able to reduce the physical spread of droplets by the mask wearer. In a laser-light scattering experiment, **Anfinrud et al. 2020**, qualitatively showed that while regular speech resulted in droplets ranging in size from 20 to 500 μm, a slightly damp washcloth over the mouth could decrease these forward moving particles. After assessing the filtration performance of a variety of household fabrics (using NaCl aerosols of smaller size than droplets), **Rangesamy et al, 2010** concluded that while markedly inferior to N95 respirators, the filtration rate of some household materials was comparable to surgical masks. **Davies et al, 2013** found that masks made from cotton t-shirt fabric had a filtration

efficiency of viral particles of ~50% as compared to ~90% for medical masks and that medical masks were 3 times more effective in blocking transmission than homemade masks. **Dato et al. 2006,** also found some protection against an aerosol challenge with the use of a homemade cotton mask.

We identified two studies examining the theoretical benefit of homemade masks in reducing personal risk of exposure to particles. As previously noted, **Ma et al. 2020,** found a homemade mask of one polyester cloth layer and 4 layers of kitchen paper to be as effective as medical masks in providing protection against avian influenza virus bioaerosols. However, an artificially tight seal may have been present in this model. **van der Sande et al, 2008** found that medical masks provided about twice as much protection as homemade masks against the entrance of particles. Notably and unlike other groups, they did not find that masks significantly prevented outward dispersal.

Since the last update, we identified multiple other laboratory-based studies investigating filtration efficiency, 3 of which were completed since the last update.

Historical studies

- **Greene et al, 1961** had volunteers wear muslin and flannel masks (the standard for medical masks at the time) in a contained chamber. Bacterial recovery on agar sedimentation plates was dramatically reduced (by 88% to >99% depending on the particle size).
- **Quesnel et al, 1975** used a similar chamber to Green et al. and volunteers were asked to try 4 disposable medical masks and one cotton mask. The filtration efficiency of the cotton mask (after 30 minutes of wear) for larger droplets (>3 μm) >99%.

***Air pollution and fine particulate matter (aerosol) studies* (<2.5 μm)**

- A study by **Shakya et al. 2017**, that was assessing filtration potential of cloth masks for fine particulate matter (air pollution related study) noted that the filtration efficiency of three particle sizes (30, 100, and 500 nm) ranged from 15% to 57%, thus they felt that cloth masks would be of limited utility for particles<2.5 μm.
- **Jung et al, 2014**, also assessed a variety of masks for protection against aerosols. Their testing adhered to the Korean Food and Drug Administration (KFDA) [similar to the European Union (EU) protocol] and the National Institute for Occupational Safety and Health (NIOSH) protocols. 44 different types of masks were tested. On average, the aerosols used for testing were less than 2.5 **μm.** The filtration efficiency of medical masks was only about 60% and only in the 2-12% range for cloth handkerchiefs. Pressure drop was also measured. They found that "general masks" and handkerchiefs provided little protection against aerosols.
- **Jang et al, 2015 [only available in Korean; abstract was reviewed],** using polydisperse NaCl aerosols (0.3~10 μm), compared five commercial cloth masks vs. a respirator. The filtration efficiencies varied from 9.5-28.5% as compared with 91% by the respirator but increased by 1.7-6.8 times after folding to create multiple layers. Washing once reduced filtration efficiency. The authors warned that cloth masks were inadequate in protecting against particulate matter.

Bioaerosol and polydisperse NaCl aerosol studies

- **Rodriguez-Palacios et al, 2020 (pre-print)** used household spray bottles filled with a bacterial suspension to see whether various textiles could prevent dispersion of the bacterial solution (which they said mimicked a sneeze) onto agar containing Petri dishes. All the fabrics used, even in one layer, reduced droplet dispersion to <30cm. As a double layer, they were as effective as medical masks and reduced droplet dispersion to <10cm. The relevance of this model is questionable.

- **Wang et al, 2020 (pre-print)** used industry approved standardized tests to compare 17 different fabrics against approved medical masks. Testing pressure difference (breathability), particle filtration efficiency, bacterial filtration efficiency, and resistance to surface wetting, they found that only 3 materials would pass industry standards. The results showed that three double-layer materials including double-layer medical non-woven fabric (example, polypropylene) medical non-woven fabric plus non-woven shopping bag, and medical non-woven fabric plus granular tea towel could meet all the standards of breathability, particle filtration efficiency (>30%), and resistance to surface wetting, and were close to the standard of the bacterial filtration efficiency (>95%).
- **Aydin et al, 2020 (preprint)** compared one brand of medical mask to a variety of homemade fabrics to assess for: efficiency of blocking droplets, breathability, weight, hydrophilicity, and texture. To measure droplet blockage (or filtration) efficiency, they used a metered-dose inhaler (MDI) loaded with fluorescent beads, of similar size to SARS-CoV-2 virus (70-100nm). A petri dish covered with the various materials was then held 36mm and 300mm away from the MDI and the number of fluorescent beads penetrating through to the petri dish were measured. In this study, even one layer of a 100% cotton t-shirt had 91% efficiency. And while a blend of cotton and polyester had only 40% efficiency, this increased to 99.98% with 3 layers. They concluded that multiple fabrics were comparable to a medical mask in terms of filtration and breathability. However, a 2-3 layer cotton/polyester blend was the closest; despite being far less hydrophobic. Of note, the materials appear to have been tightly adhered to the petri dish.
- **Konda et al, 2020** also tested a variety of household materials. They introduced a polydisperse NaCl aerosol into a mixing chamber, where it passed through the material being tested (held down tightly by a clamp). They analyzed particle size with two different particle analyzers and followed the protocol used for testing face respirators in compliance with the NIOSH 42 CFR Part 84 test protocol. For droplets >300nm, several materials had filtration efficiency equivalent to a medical mask (>95% efficiency), including even one layer of a high thread count cotton. However, the authors recommended a hybrid fabric (cotton + silk) that could leverage both mechanical and electrostatic properties. Furthermore, the authors found that even small gaps (hole of 1% surface area) could reduce filtration efficiency by 60%, highlighting the importance of a tight fit
- **Zhao et al, 2020** evaluated common materials using a modified version of the NIOSH standard test procedure for N95 respirator approval. They used NaCl aerosols (0.075 ± 0.02 μm), without taking real-world leakage from around the mask into account, to identify the material with the highest filtration quality factor (Q) – a metric that results from a high filtration efficiency (low penetration) with low pressure drop. They identified that polypropylene spunbound, a material commonly found in reusable bags, had the optimal Q. While the filtration efficiency was ~6-10% (which was similar to the other fabrics tested), if it were triboelectrically charged or multiple layers were added, its filtration efficiency improved without a concomitant increase in pressure. In fact, as compared with the medical masks they tested (~19-33% filtration efficiency), the five-layer polypropylene had a filtration efficiency of ~50% with a lower pressure drop.

Though there are now many different laboratory studies to draw from, the variability of the methodology of the studies and the variability in their findings make their interpretation challenging. Taken together, these studies suggest that non-medical masks can act as a barrier to outward dispersion of droplets (but not particles <2.5 μm). For that reason, WHO states that non-medical masks "should only be considered for source control (used by infected persons) in community settings and not for prevention".

Despite the challenges of interpreting non-medical mask studies, a non-medical mask standard has been developed by the French Standardization Association (AFNOR Group) (https://www.afnor.org/en/faq-barrier-masks/). AFNOR Group defines minimum performance in terms of filtration (minimum 70% solid particle filtration or droplet filtration) and breathability (maximum pressure difference of 0.6 mbar/cm2 or maximum inhalation resistance of 2.4 mbar and maximum exhalation resistance of 3 mbar).

In addition, in its latest interim guidance report (https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak), WHO has now provided guidance on the optimal composition and construction of non-medical masks. They advise that when decision-makers are providing recommendations on masks, they should take filtration efficiency, breathability, number and combination of materials used, shape, coating and maintenance into account. Using the filter quality factor "Q" metric, which is a function of filtration efficiency and breathability (with higher values being better), they advise the following mask composition:

a) Inner layer of a hydrophilic material (cotton or cotton blend)
b) Outer layer of a hydrophilic material (ie. polypropylene, polyester or blend)
c) Middle hydrophobic layer of a synthetic non-material such as polypropylene or a cotton layer

Table 3 in the **Appendix** provides a list of different materials with their corresponding filter quality factor as well as filtration efficiency and breathability.

In terms of fit, they also recommend a tightly-fitted flat-fold or duckbill shape.
(WHO, June 5, 2020)

Theoretical sociological benefits and harms of mask use in COVID-19:

From a sociologic perspective, some have noted that if mask wearing were widespread and not just limited to those who are feeling ill, it would reduce the stigma associated with their use and increase the likelihood of their use in ill individuals. Similarly, mask use may act as a visual cue reminding individuals to maintain physical distance and act as visible signal of social solidarity (preprint, **Howard et al. 2020**). In terms of acting as a visual cue, **Seres et al, 2020** undertook a field experiment where they randomized 300 individuals to "exposure" to an individual wearing a mask vs no-mask. Specifically, the *experimenter* was randomly assigned to wear a mask or not. Then, they took the last position in line-ups (ie. a supermarket, store) and noted the distance with which the subsequent customer would stand. Individuals kept a statistically significantly further distance when someone was wearing a mask. Subsequent survey data suggested this was because it was perceived that a masked person preferred more distance.

Finally, it is becoming increasingly clear that racial minorities are disproportionately impacted by COVID-19 (**Hooper et al, 2020**). In addition to underlying co-morbidities and structural inequalities (ie. lack of access to healthcare), this discrepancy may be attributed to living conditions and employment. As **Yang, 2020** stated "social distancing is a privilege". For instance, outside of LTC outbreaks, most outbreaks in Calgary, Alberta are occurring at warehouses and workplaces (https://www.alberta.ca/covid-19-alberta-data.aspx#toc-1) where social distancing either cannot be or is not being enforced. Mandatory masking, with provision of masks and targeted education about mask hygiene, may be particularly helpful in such settings.

There are also several possible harms associated with widespread mask use. There is concern that moisture retention could increase the risk of infection which is one possible interpretation of the McIntyre study. Masks may also increase the frequency with which individuals touch their face. There is also concern regarding self-contamination of the hands or face with improper donning and doffing technique. In an observational study of ~10,000 pedestrians in Hong Kong in February 2020, 94% of individuals wore masks (84% of which were medical masks). However, 13% of individuals wore them incorrectly, with 5% wearing them inside out or upside-own and 5% wearing them too low **(Tam et al, 2020).**

The importance of risk-compensation in population-level health interventions has been called into question **(B Pless, 2016).** However, the potential harms of masks in creating a false sense of security and consequent neglect of physical distancing or hand hygiene is raised by the World Health Organization **(WHO, 2020).** A recent study by **Yan et al, 2020 (pre-print)** used smart device location data to determine the time spent at home and at various public locations before and after mask mandates were implemented in 36 different states. They accounted for weather patterns, re-openings orders, and time since stay-at-home orders were implemented. They found that masks mandates were associated with an increase of 4% (20-30 minutes) of time outside the home per day and they specifically noted more trips to restaurants. This suggests that for mask to be beneficial, their efficacy in reducing transmission needs to exceed the increased risk associated with a 4% increase in time away from home.

Another concern is related to the environmental impact of mass use of medical masks. For instance, the sheer numbers of disposable masks that would be required in China would be around 900 million daily and would pose significant disposal challenges **(Wang MW et al, 2020).** Safe disposal concern are already arising throughout Asia (https://www.bangkokpost.com/opinion/opinion/1924908/face-mask-crisis-of-another-design)

Another major concern is the risk of PPE shortages for HCW who are more frequently exposed to SARS-CoV-2 than the general public. Indeed, there have been shortages globally, with some countries banning or threatening to ban export of medical masks (https://www.cnbc.com/2020/04/03/coronavirus-trump-to-ban-export-of-protective-gear-after-slamming-3m.html), and with reports of hoarding and price gouging.

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Authorship and Committee Members

This report was written and updated by Leyla Asadi and scientifically reviewed by Elizabeth Mackay (primary reviewer), Lynora Saxinger (co-chair), and Nelson Lee. The full Scientific Advisory Group was involved in discussion and revision of the document: Braden Manns (co-chair), John Conly, Alexander Doroshenko, Shelley Duggan, Andrew McRae, Jeremy Slobodan, James Talbot, Brandie Walker, and Nathan Zelyas.

Appendix

The literature search was conducted by Lauren Seal from the AHS Knowledge Resource Service. The literature search was last updated on May 14, 2020.

Medline/PubMed

1 exp Coronavirus/ or exp Coronavirus Infections/ or coronaviru*.mp. or "corona virus*".mp. or ncov*.mp. or n-cov*.mp. or COVID-19.mp. or COVID19.mp. or COVID-2019.mp. or COVID2019.mp. or SARS-COV-2.mp. or SARSCOV-2.mp. or SARSCOV2.mp. or SARSCOV19.mp. or Sars-Cov-19.mp. or SarsCov-19.mp. or SARSCOV2019.mp. or Sars-Cov-2019.mp. or SarsCov-2019.mp. or "severe acute respiratory syndrome cov 2".mp. or "2019 ncov".mp. or "2019ncov".mp. (18987)

2 Masks/ (4203)

3 mask.mp. (28586)

4 masks.mp. (15768)

5 facemask.mp. (1101)

6 "face-mask".mp. (2557)

7 (face adj2 mask*).mp. (3254)

8 2 or 3 or 4 or 5 or 6 or 7 (37583)

9 homemade.mp. (2899)

10 home-made.mp. (2094)

11 "home made".mp. (2094)

12 handmade.mp. (505)

13 "hand made".mp. (346)

14 hand-made.mp. (346)

15 handcraft*.mp. (335)

16 hand-craft*.mp. (321)

17 "hand craft*".mp. (321)

18 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 (6424)

19 8 and 18 (32)

20 8 or 19 (37583)

21 1 and 20 (140)

22 limit 21 to last year (19)

CINAHL

S1	(MH "Coronavirus+")	
S2	(MH "Coronavirus Infections+")	
S3	coronaviru*	
S4	"corona virus"	
S5	ncov*	
S6	n-cov*	
S7	COVID-19 OR COVID19 OR COVID-2019 OR COVID2019	
S8	SARS-COV-2 OR SARSCOV-2 OR SARSCOV2 OR SARSCOV19 OR SARS-COV-19 OR SARSCOV-19 OR SARSCOV2019 OR SARS-COV-2019 OR SARSCOV-2019	
S9	"severe acute respiratory syndrome cov 2" OR "severe acute respiratory syndrome coronavirus*"	
S10	"2019 ncov" OR 2019ncov OR Hcov*	
S11	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10	
S12	(MH "Masks")	2,140
S13	mask OR masks OR facemask OR face-mask OR face N2 mask OR medical N2 mask OR face N2 cover*	10,693
S14	S12 OR S13	10,693
S15	homemade OR home-made OR "home made" OR handmade OR hand-made OR "hand made" OR handcraft* OR hand-craft* OR "hand craft*"	2,013
S16	S14 AND S15	10
S17	S14 OR S16	10,693
S18	S11 AND S17	87
S19	S11 AND S17	Limiters - Published Date: 20190101-20201231

12

TRIP Pro/Google Scholar/Google/ LitCovid/CEBM/ /Twitter/WHO/Stanford Medicine/REACTing/Nebraska Medicine COVID-19 resources/CAIC-RT – COVID-19 Capacity Tool/NEJM/ The Oakes Academy Coronavirus Clinical Collaboration/CochraneLibrary

("covid-19" OR coronavirus OR COVID19 OR "corona virus" OR ncov OR "n-cov" OR "covid-2019" OR covid2019 OR "SARS-COV-2" OR "sarscov-2" OR sarscov2 OR sarscov19 OR "sars-cov-19" or "sarscov-19" OR sarscov2019 OR "sars-cov-2019" OR "severe acute respiratory syndrome") AND (mask OR facemask OR "face-mask" OR "face mask" OR "face cover" OR "face covering" OR "homemade mask" OR "home-made mask" OR "handmade mask" OR "hand-made mask" OR "handcrafted mask" OR "hand-crafted mask")

(mask OR facemask OR "face-mask" OR "face mask" OR "face cover" OR "face covering" OR "homemade mask" OR "home-made mask" OR "handmade mask" OR "hand-made mask" OR "handcrafted mask" OR "hand-crafted mask")

mask

facemask

face covering

Critical Appraisal

Table 2. Summary of quality assessment results for articles included in this review

				Mixed Methods Appraisal Tool Criteria	
	Reference	Peer reviewed?	Type of evidence	Are there clear research questions or a clearly identified issue?	Is the collected data or presented evidence appropriate to address the research questions or issue?
1	Jefferson T, Del Mar CB, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, van Driel ML, Nair S, Jones MA, Thorning S, et al. 2011. Physical interventions to interrupt or reduce the spread of respiratory viruses. The Cochrane Database of Systematic Reviews 2011(7):CD006207.	☒ Yes	Systematic review and meta-analysis	☒ Yes	☒ Yes

38

2.	Offeddu V, Yung CF, Low MSF, Tam CC. 2017. Effectiveness of masks and respirators against respiratory infections in healthcare workers: A systematic review and meta-analysis. Clinical Infectious Diseases : An Official Publication of the Infectious Diseases Society of America. 65(11):1934-42.	☒ Yes	Systematic review and meta-analysis	☒ Yes	☒ Yes
3	Saunders-Hastings P, Crispo JAG, Sikora L, Krewski D. 2017. Effectiveness of personal protective measures in reducing pandemic influenza transmission: A systematic review and meta-analysis. Epidemics. 20(C):1-20.	☒ Yes	Systematic review and meta-analysis	☒ Yes	☒ Yes
4	Brainard J ea. 2020. Facemasks and similar barriers to prevent respiratory illness such as COVID-19: A rapid systematic review.	☐ No (pre-print)	Systematic review and meta-analysis	☒ Yes	☒ Yes
5	WHO. Advice on the use of masks in the context of COVID19. Available at: https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak .		WHO guidelines		
6	MacIntyre CR, Chughtai AA. 2015. Facemasks for the prevention of infection in healthcare and community settings. BMJ : British Medical Journal. 350(apr09 1):h694.	☒ Yes	Review article	☒ Yes	☒ Yes
7	MacIntyre CR, Seale H, Dung TC, Hien NT, Nga PT, Chughtai AA, Rahman B, Dwyer DE, Wang Q. 2015. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. BMJ Open. 5(4):e006577.	☒ Yes	Cluster randomzied trial	☒ Yes	☒ Yes
8	Leung, N.H.L., Chu, D.K.W., Shiu, E.Y.C. *et al.* Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat Med* (2020). https://doi.org/10.1038/s41591-020-0843-2	☒ Yes	Randomzied lab-based trial	☒ Yes	☒ Yes
9	Davies A, Thompson K, Giri K, Kafatos G, Walker J, Bennett A. 2013. Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? Disaster Medicine and Public Health Preparedness. 7(4):413-8.	☒ Yes	Laboratory	☒ Yes	☒ Yes
10	Makison Booth C, Clayton M, Crook B, Gawn JM. 2013. Effectiveness of surgical masks against influenza bioaerosols. Journal of Hospital Infection. 84(1):22-6.	☒ Yes	Laboratory	☒ Yes	☒ Yes

APPENDIX

Table 1: Situations and types of masks recommended for use in the community (from the World Health Organization, June 2020 interim guidance "Advise on the use of masks in the context of COVID-19")

https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak

Situations/settings	Population	Purpose of mask use	Type of mask to consider wearing if recommended locally
Areas with known or suspected widespread transmission and limited or no capacity to implement other containment measures such as physical distancing, contact tracing, appropriate testing, isolation and care for suspected and confirmed cases.	General population in public settings, such as grocery stores, at work, social gatherings, mass gatherings, closed settings, including schools, churches, mosques, etc.	Potential benefit for source control	Non-medical mask
Settings with high population density where physical distancing cannot be achieved; surveillance and testing capacity, and isolation and quarantine facilities are limited	People living in cramped conditions, and specific settings such as refugee camps, camp-like settings, slums	Potential benefit for source control	Non-medical mask
Settings where a physical distancing cannot be achieved (close contact)	General public on transportation (e.g., on a bus, plane, trains) Specific working conditions which places the employee in close contact or potential close contact with others e.g., social workers, cashiers, servers	Potential benefit for source control	Non-medical mask
Settings where physical distancing cannot be achieved and increased risk of infection and/or negative outcomes	Vulnerable populations: • People aged ≥60 years • People with underlying comorbidities, such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease, immunosuppression	Protection	Medical mask
Any setting in the community*	Persons with any symptoms suggestive of COVID-19	Source control	Medical mask

*This applies to any transmission scenario

Table 2. Summary of high level evidence (GRADE guidelines) on facemasks in the household setting (from: Raina MacIntyre, and Abrar Ahmad Chughtai BMJ 2015;350:bmj.h694)

Study, year of publication	Design, participants	Mask type, intervention	Outcome	Results	Comments, limitations, biases
Cowling[11] 2008	• Cluster RCT • 198 index cases and household contacts • Hong Kong	• Medical masks • Hand hygiene • Control	• Self reported influenza symptoms • Laboratory confirmed influenza (by culture or RT-PCR) in household	• No significant difference in rates of laboratory confirmed influenza (OR 1.16, 95% CI 0.31 to 4.34) and ILI (0.88, 0.34 to 2.27) in the medical masks arm versus control arm	• Both index cases and household contacts used medical masks • This pilot study was small and underpowered • Compliance 45% in index cases and 21% in household contacts • Compliance data showed that some index cases in the control and hand hygiene arms used medical masks
Cowling[11] 2009	• Cluster RCT • 407 index cases and 794 household contacts • Hong Kong	• Hand hygiene • Masks + hand hygiene • Control (education)	• Self reported influenza symptoms • Laboratory confirmed influenza (by RT-PCR) in household	• No significant difference in rate of laboratory confirmed influenza in three arms • Significant difference if masks + hand hygiene together applied within 36 hours of illness (OR 0.33, 0.13 to 0.87) • Hand hygiene alone was not significant	• No separate medical mask arm, making it difficult to evaluate the efficacy of masks • Both index cases and household contacts used masks • Compliance 49% in index cases and 26% in household contacts using masks • Compliance data showed that some index cases in the control and hand hygiene arms used medical masks
MacIntyre[13] 2009	• Cluster RCT • 145 child index cases and well adult household contacts • Australia	• Medical masks for contacts • P2 respirators (equivalent to N95) for contacts • Control	• Self reported ILI • Laboratory confirmed respiratory infection	• No significant difference in ILI and laboratory confirmed respiratory infections in all three arms • Adherent use of P2 or medical masks significantly reduced the risk of ILI (HR 0.26, 0.09 to 0.77)	• Only household contacts used medical masks • Low compliance: 21% of household contacts wore masks often/always
Aiello[14] 2010	• Cluster RCT • 1437 well university residents • Michigan, USA	• Medical masks • Medical masks + hand hygiene • Control	• Self reported ILI • Laboratory confirmed influenza (by culture or RT-PCR)	• No significant difference in ILI in three arms • Significant reduction in ILI in the medical masks + hand hygiene arm over 4-6 weeks (P<0.05)	• Self reported ILI • Not all ILI cases (n=368) were laboratory tested (n=94) • No data on compliance
Larson[15] 2010	• Block RCT • 617 households • Manhattan, USA	• HE • HE + hand sanitiser • HE + hand sanitiser + medical masks	• Self reported ILI • Self reported URI • Laboratory confirmed influenza through culture	• No significant difference in rates of URI, ILI, or laboratory confirmed influenza between the three arms • Significantly lower secondary attack rates of URI/ILI/influenza in the HE	• No separate medical masks group • Household contacts used medical masks • Low compliance and around half of household in the masks arm used
Canini[16] 2010	• Cluster RCT • 105 index cases and 306 households • France	• Medical mask (as source control to be used by index case) • Control	• Self reported ILI in household	• No significant difference in the rates of ILI between the two arms (OR 0.95, 0.44 to 2.05)	• Trial stopped early owing to low recruitment and influenza A/H1N1-pdm09 in subsequent year
Simmerman[17] 2011	• Cluster RCT • 465 index patients and their families • Thailand	• Hand hygiene • Hand hygiene + medical masks • Control	• Self reported ILI • Laboratory confirmed influenza by PCR and serology in family members	• No significant difference in secondary influenza infection rates between hand hygiene arm (OR 1.20, 0.76 to 1.88) and hand hygiene plus medial masks arm (1.16, 0.74 to 1.82)	• No separate medical mask group • Owing to H1N1 pandemic, hand and respiratory hygiene campaigns and mask use substantially increased among the index cases (from 4% to 52%) and families (from 17.6% to 67.7%) in control arm
Aiello[18] 2012	• Cluster RCT • 1178 university residents • Michigan, USA	• Medical masks • Medical masks + hand hygiene • Control	• Clinically diagnosed and laboratory confirmed influenza (by RT-PCR)	• No overall difference in ILI and laboratory confirmed influenza in three arms • Significant reduction in ILI in the medical masks + hand hygiene arm over 3-6 weeks (P<0.05)	• Good compliance: medical mask + hand hygiene group used masks for 5.08 h/day (SD 2.23) and medical mask group used masks for 5.04 h/day (SD 2.20) • Self reported ILI • Effect may have been due to hand hygiene because medical masks alone not significant
Suess[19] 2012	• Cluster RCT • 84 index cases and 218 household contacts • Berlin, Germany	• Masks • Masks + hand hygiene • Control	• Laboratory confirmed influenza infection and ILI	• No significant difference in rates of laboratory confirmed influenza and ILI in all arms by intention to treat analysis • The risk of influenza was significantly lower if data from two intervention arms (masks and masks + hand hygiene) were pooled and intervention was applied within 36 hours of the onset of symptoms (OR 0.16, 0.03 to 0.92)	• Around 50% participants wore masks "mostly" or "always" • Participants paid to provide respiratory samples

CI=confidence interval; CRI=clinical respiratory infection; HCW=healthcare worker; HE=health education; HR=hazard ratio; ILI=influenza-like illness; OR=odds ratio; PCR=polymerase chain reaction; RCT=randomised controlled trial; RR=relative risk; RT=reverse transcriptase; SD=standard deviation; URI=upper respiratory tract infection.

Table 3. Non-medical mask filtration efficiency, pressure drop and filter quality factor* (from the World Health Organization, June 2020 interim guidance "Advise on the use of masks in the context of COVID-19" Adapted from Jung et al, 2014 and Zhao et al, 2020)

https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak

Table 3. Non-medical mask filtration efficiency, pressure drop and filter quality factor*

Material	Source	Structure	Initial Filtration Efficiency (%)	Initial Pressure drop (Pa)	Filter quality factor, Q ** (kPa^{-1})
Polypropylene	Interfacing material, purchased as-is	Spunbond (Nonwoven)	6	1.6	16.9
Cotton 1	Clothing (T-shirt)	Woven	5	4.5	5.4
Cotton 2	Clothing (T-shirt)	Knit	21	14.5	7.4
Cotton 3	Clothing (Sweater)	Knit	26	17	7.6
Polyester	Clothing (Toddler wrap)	Knit	17	12.3	6.8
Cellulose	Tissue paper	Bonded	20	19	5.1
Cellulose	Paper towel	Bonded	10	11	4.3
Silk	Napkin	Woven	4	7.3	2.8
Cotton, gauze	N/A	Woven	0.7	6.5	0.47
Cotton, handkerchief	N/A	Woven	1.1	9.8	0.48
Nylon	Clothing (Exercise pants)	Woven	23	244	0.4

* This table refers only to materials reported in experimental peer-reviewed studies. The filtration efficiency, pressure drop and Q factor are dependent on flow rate. ** According to expert consensus, three (3) is the minimum Q factor recommended.

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Notifications

COVID-19: Alberta is in Stage 2 of relaunch. Continue acting safely to prevent the spread while supporting Alberta businesses. Find out how.

Alberta

Cases in Alberta

Find information on confirmed COVID-19 cases and laboratory testing in Alberta.

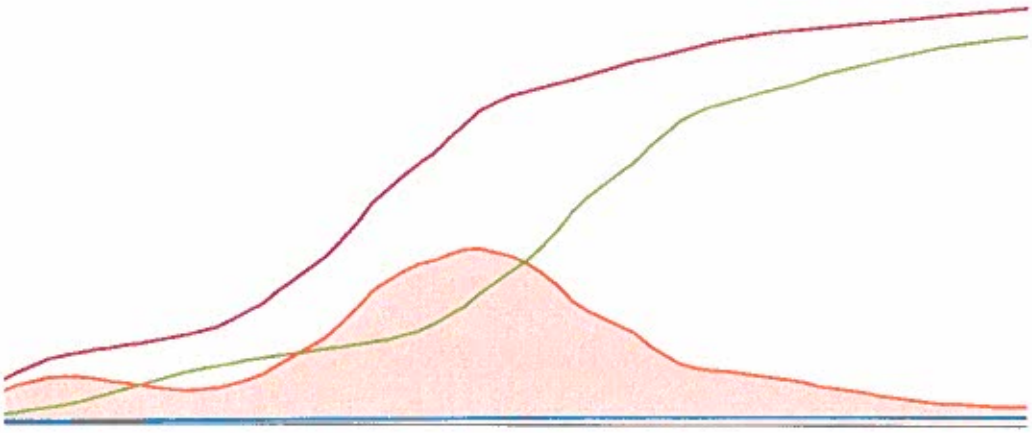
- COVID-19 Alberta statistics

COVID-19 data app

The aggregate data application provides interactive information on COVID-19 cases in Alberta, including age range, sex and characteristics.

Data reported in the table below and in the app is based on calendar day.

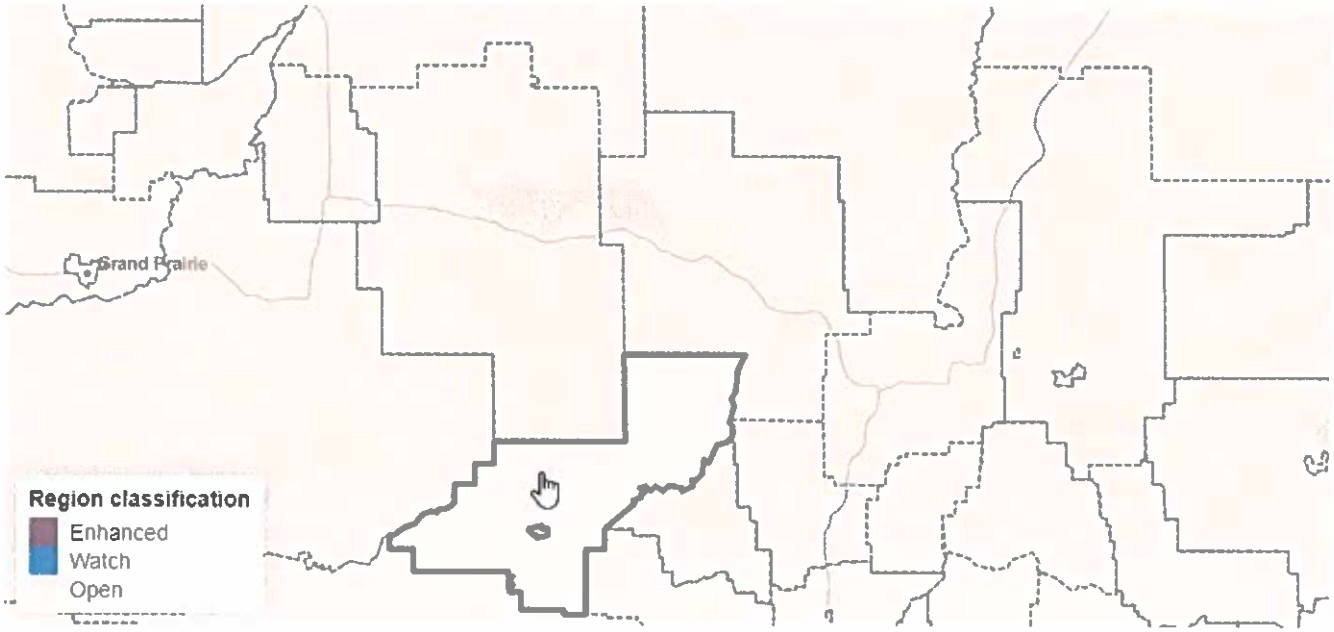
View the interactive data app



COVID-19 relaunch status map and notifications

As Alberta reopens, some regions may need to put additional measures in place to address local outbreaks. Learn more about the regional relaunch status in your area and sign up to be notified if there is a change in your area.

View the map Get notifications



Cases in Alberta

Alberta is taking aggressive measures to help slow the spread of COVID-19. The health of Albertans is, and always will be, our top priority. We are committed to keeping Albertans fully informed.

Case data will be updated Monday to Friday, except holidays. Breakdowns of Saturday, Sunday and holiday data will be provided the next business day.

In Alberta the total number of cases increased by 84 on August 13.

Updated August 14. Numbers are up to date as of end of day August 13.
**Active cases include both community cases and hospitalizations*
***Zone of current hospitalization and current ICU admission based on location of hospitalization, not zone of patient residence.*
****ICU cases are a subset of those in hospital.*

Location	Confirmed cases	Active cases*	Recovered cases	In hospital**	In intensive care***	Deaths	Tests completed	People tested
In Canada	121,318	-	-	-	-	9,016	-	-
In Alberta	12,053 (84 on Aug. 13)	1,036	10,796	48	13	221	801,360 (8,199 on Aug. 13)	652,819
Calgary zone	6,853	305	6,432	11	0	116	-	-
Edmonton zone	2,218	497	1,65	22	7	56	-	-
Central zone	546	81	459	4	0	6	-	-
South zone	1,710	45	1,644	5	3	21	-	-

Location	Confirmed cases	Active cases*	Recovered cases	In hospital**	In intensive care***	Deaths	Tests completed	People tested
North zone	698	103	573	6	3	22	-	-
Unknown	28	5	23	0	0	0	-	-

Modelling

Alberta uses modelling to anticipate the number of COVID-19 cases over the coming months. This helps us make decisions and prepare hospitals to care for critical and acute patients.

These decisions include the aggressive public health measures currently helping to limit the spread of the virus.

Modelling data is intended to demonstrate expected trends, and not intended to be a predictor of day-to-day increases in hospitalization rates.

The updated probable scenario now estimates 596 people will require hospitalization when the virus reaches its peak. This is a reduction from the previous planning scenario.

We have also created a new low scenario. This new projection takes into account Alberta's overall low hospitalization rate. If trends continue as they are, this new low scenario could become the most likely for Alberta. This likely new scenario suggests 298 people will require hospitalization when the virus reaches its peak.

Planning scenarios

Modelling and scenarios will be updated as new data emerges.

- Alberta COVID-19 modelling - April 8 (PDF, 828 KB)
- Alberta COVID-19 modelling update - April 28 (PDF, 935 KB)

Sweden comparison

We have compared Alberta's current rates of cases and severe outcomes with those of Sweden, a country that has established minimal stay-at-home physical distancing orders.

- Alberta COVID-19 rates compared to Sweden - May 19 (PDF, 229 KB)

Outbreaks in Alberta

Locations of outbreaks in acute care and continuing care facilities are reported publicly when there are 2 or more cases, indicating that a transmission within the facility has occurred.

Outbreaks at other facilities or in the community are reported publicly when there are 5 or more cases.

Outbreaks are declared over when 4 weeks have passed with no new cases, so not all outbreaks listed below have current transmission happening.

As a precaution, outbreak control measures are put in place at continuing care facilities and group homes with a single confirmed case.

Outbreak locations by zone

Outbreak information will be updated on Tuesdays and Fridays each week. Case numbers for outbreaks at specific sites are not provided online because they change rapidly and often.

North zone

Supportive living/home living sites

- Heimstaed Seniors Lodge, La Crete

Other facilities and settings

- CNRL Albian, Fort Mackay
- Family gatherings, La Crete

Edmonton zone

Long term care

- Extendicare Eaux Claires, Edmonton
- Good Samaritan Southgate, Edmonton
- Miller Crossing Care Centre, Edmonton

Supportive living/home living sites

- Ashbourne, Edmonton
- Balwin Villa, Edmonton
- Kiwanis Place Lodge, Edmonton
- Rosslyn Place Lodge, Edmonton
- Shepherd's Care Greenfield, Edmonton
- Shepherd's Gardens Heritage, Edmonton

Other facilities and settings

- Private gathering, Edmonton
- Private gathering, Spruce Grove

Central zone

Acute care facilities

- Red Deer Regional Hospital Centre, Red Deer

Calgary zone

Acute care facilities

- Peter Lougheed Centre, Calgary

Long term care facilities

- Bethany, Calgary
- Carewest Dr. Vernon Fanning Centre, Calgary
- Carewest Sarcee, Calgary
- Generations Calgary

Supportive living/home living sites

- Trinity Lodge Retirement Residence, Calgary

Other facilities and settings

- Cargill Case Ready, Calgary
- Fledglings Educare Centre, Calgary
- Private gathering, Calgary

South zone

No active outbreaks to publicly report at this time

Related

- Testing in Alberta
- Isolation requirements
- Help prevent the spread

Home

LEASE AGREEMENT

THIS LEASE made this 1st day of January, 2017.

BETWEEN:

The Town of Onoway,
of Box 540, Onoway, Alberta, T0E 1V0
a municipality in the Province of Alberta,

(the "Landlord")

OFTHE FIRST PART;

-and-

The Onoway Facility Enhancement Association ("OFEA"),
a Society under the laws of the Province of Alberta,

(the "Tenant")

OF THE SECOND PART;

THE AGREEMENT:

1. ARTICLE ONE - GRANT AND TERM

1.1. Leased Premises. In consideration of the rent, covenants and agreements hereinafter reserved and contained on the part of the Tenant to be paid, observed and performed, the Landlord leases to the Tenant the following premises:

The Onoway Community Hall
located on the property legally described as:
Plan 6288BZ, Block 2, Lots 10,11,12
Excepting Thereout All Mines and Minerals
(the "Leased Premises")

and the Tenant hereby leases and accepts the Leased Premises from the Landlord, to have and to hold during the Term, subject to the covenants, conditions and agreements set out in this Lease.

1.2. Ownership and Control. The Landlord at all times retains owner of the Leased Premises and, as such, reserves all rights with respect to the Leased Premises not otherwise granted to the Tenant.

1.3. The Term. The Tenant shall, subject to this Lease, have and hold the Leased Premises for and during the term (the "Term") of four (4) years from January 1, 2017 (the "Commencement Date"), to December 31, 2020 unless earlier terminated pursuant to the terms of this Lease.

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1.4. Renewal. Provided that this Lease has not been terminated prior to the end of the Term as set forth herein, unless written notice of termination of this Lease is given by either Landlord or Tenant within thirty (30) days prior to the end of the Term, this Lease shall be considered to be renewed for a further one (1) year term on the same terms and conditions.

1.5. Notice of Termination. The Landlord may terminate this Lease, for any reason whatsoever, in its sole discretion, on the provision of 60 days' notice of such termination to the Tenant.

2. ARTICLE TWO – RENT.

2.1. Rent.

a. The Tenant shall pay annual rent of ONE DOLLAR ($1.00), by cash or cheque.

b. The first payment of rent shall be made on or before the Commencement Date and, if the Lease is renewed in accordance with its terms, all subsequent payments are to be made annually on this anniversary date.

2.2. Lease Year. "Lease Year" means each successive period of twelve calendar months during the Term ending:

a. if the Term commences on the first day of a calendar month, on an anniversary of the last day of the calendar month preceding the calendar month in which the Term commences; and

b. if the Term commences other than on the first day of the calendar month, on an anniversary of the last day of the calendar month preceding the calendar month in which the Term commences (so as to exclude in such case in the first Lease Year and the first month of such Lease Year the broken portion of the calendar month between the last day of the calendar month preceding the month in which the Term commences and the commencement of the Term).

2.3. Where Payments to be Made. All payments required to be made by the Tenant under or in respect of this Lease shall be made to the Landlord at the Landlord's office in the Town of Onoway, Alberta, or to such agent or agents of the Landlord or at such other place as the Landlord shall hereafter from time to time direct in writing to the Tenant.

3. ARTICLE THREE - PARKING FACILITIES AND THE COMMON AREAS AND FACILITIES

3.1. License. The Tenant, its employees, licensees and invitees and all persons lawfully requiring communication with the Tenant shall have free and uninterrupted access to the Leased Premises, the Lands and any parking area provided by the Landlord, at all times, subject to the reasonable rules and regulations as may be promulgated from time to lime by the Landlord.

4. ARTICLE FOUR — COST OF MAINTENANCE AND OPERATION OF THE LEASED PREMISES

4.1. Tenant to Pay Utilities. The Tenant shall be solely responsible for and shall promptly pay all charges for water, gas, electricity, telephone and other utilities used or consumed in the Leased Premises. In no event shall the Landlord be liable for, nor have any obligation with respect to, an interruption or cessation of, or a failure in the supply of any such utilities, services or systems, including without limitation the water and sewage systems, to the Lands or to the Leased Premises whether or not supplied by the Landlord or others.

4.2. Heating and Air-Conditioning. The Tenant shall, throughout the Term, operate, maintain and regulate the heating, ventilating and air-conditioning equipment if any, within, or installed by or on behalf of the Tenant for the Leased Premises in such a manner as to maintain reasonable conditions of temperature and humidity within the Leased Premises. The Tenant shall be solely responsible for the cost of heating, ventilating and air-conditioning, which costs shall include, without being limited to, fuel, water electricity, supplies (including those occasioned by everyday wear and tear) general maintenance, repairs and replacements, including major repairs and replacements, to the plant and equipment supplying or distributing such heal, ventilation or air-conditioning. The Tenant shall deliver to the Landlord a copy of its preventative maintenance contract for the heating, ventilating and air-conditioning equipment on the commencement of the Term and before every renewal of such contract.

5. ARTICLE FIVE — MAINTENANCE, REPAIRS AND ALTERATIONS

5.1. Maintenance and Repairs by Tenant. The Tenant, at its own expense, shall maintain and keep the Leased Premises and every part thereof in good order and condition. The Tenant shall also, at its own cost, promptly make all needed repairs including without limitation, major structural repairs, to the Leased Premises. Any replacements, including but not limited to, replacements and repairs to and of the roof and all electrical, plumbing, climate control systems, machinery and equipment in and to the Leased Premises, all entrances, glass, show window moldings, store fronts, partitions, doors and any and all other fixtures, equipment and appurtenances, that are part of the Leased Premises (reasonable wear and tear, and damage by fire, lightning, and tempest only excepted) shall be made by the Tenant, at its own cost, using new materials and in good and workmanlike manner. The Tenant shall keep the Leased Premises well painted, clean and in such condition as a careful owner would do.

5.2. Improvements, Alterations, Partitions. The Tenant shall not install or construct fixtures, partitions, or other permanent improvements, or make structural alterations, to the Leased Premises without the advance approval of the Landlord in writing. Should the Tenant propose, and the Landlord agree in writing to such improvements, alterations or partitions, these shall be completed in a professional and workmanlike manner at the Tenant's sole expense. Any such improvements, alterations, or partitions, shall become the property of the Landlord at the end of the Term without compensation to the Tenant.

5.3. Maintenance by the Landlord. If the Tenant refuses or neglects to repair as required pursuant to this Article and to the reasonable satisfaction of the Landlord, the Landlord may make such repairs without liability to the Tenant for any loss or damage that may accrue to the Tenant's merchandise, fixtures, other property or business by reason thereof, and upon completion of such repairs, the Tenant shall pay to the Landlord the Landlord's cost for making such repairs. The Tenant agrees that the making of any repairs by the Landlord pursuant to this Section is not a re-entry or a breach of any covenant for quiet enjoyment contained in this Lease.

5.4. Entry by Landlord.

a. General. The Tenant covenants that it shall be lawful for the Landlord and its agent(s) at all reasonable times during the Term and upon twenty-four hours (24) notice by telephone or other means to enter the Leased Premises to inspect its condition. Where an inspection reveals that repairs are necessary, the Landlord shall give to the Tenant notice in writing, and immediately thereafter the Tenant will forthwith proceed to make all necessary repairs in a good and workmanlike manner, using at all times new materials, and to the satisfaction of the Landlord, so as to complete same within the reasonable time or times provided for in the notice delivered by the Landlord as aforesaid. The failure by the Landlord to give notice shall not relieve the Tenant from any of its obligations to repair in accordance with the provisions hereof.

b. Emergency Entry. The Tenant also acknowledges and agrees that it shall be lawful for the Landlord and its agents to enter the Leased Premises during the Term without notice if the Landlord perceives there is an emergency and immediate entry to the Leased Premises is necessary.

5.5. Leave Premises in Good Repair. The Tenant will, at the expiration or sooner termination of the Term or any renewals thereof peaceably surrender and yield up unto the Landlord the Leased Premises with all improvements, erections and appurtenances at any time or times during the Term shall be made, placed or erected therein or thereon, in good and substantial repair and condition, reasonable wear and tear and damage by fire, lightning and tempest only excepted, and the Tenant shall surrender all keys for the Leased Premises to the Landlord at the place then fixed for payment of Rent and shall inform the Landlord of all combinations on locks, safes and vaults, if any, in the Leased Premises. The Tenant shall, however, if requested by the Landlord remove all improvements, erections, alterations, fixtures or other appurtenances made, placed or erected at any lime or times during the Term in or on the Leased Premises, at the sole cost and expense of the Tenant, and shall repair all damage to the Leased Premises caused by their installation and/or removal. The Tenant's obligation to observe and perform this covenant shall survive the expiration or sooner determination of the Term or any renewal thereof.

5.6. Damage to Leased Premises. The Tenant shall, in the event of any damage to the Leased premises by any cause or causes, give notice in writing to the Landlord of such damage immediately upon the same becoming known to the Tenant. The Tenant shall give Landlord prompt notice of any defect to plumbing, climate control apparatus, electrical equipment and wires and any other defect in the Leased Premises and anything connected therewith. Notwithstanding anything to the contrary contained in this Lease, the Tenant shall not be relieved of its repair and replacement obligations as set forth in this Lease.

5.7. Overloading. The Tenant will not bring upon the Leased Premises any machinery, equipment, article or thing that by reason of its weight, size or use might damage the floors of the Leased Premises and if any damage is caused to the Leased Premises by any machinery, equipment, article or thing or by overloading or by any act, neglect or misuse on the part of the Tenant or any of its servants, agents, or employees or any persons having business with the Tenant, the Tenant will forthwith repair the same using, at all times, new materials or pay to the Landlord the cost of making good the same, forthwith upon demand.

5.8. Tenant not to Overload Utility Facilities. The Tenant will not install any equipment which would exceed or overload the capacity of the utility facilities in the Leased Premises.

5.9. Plumbing Facilities. The plumbing facilities in the Leased Premises shall not be used for any other purpose than that for which they are constructed.

5.10. Garbage. The Tenant will keep the Leased Premises and its surrounding area and every part thereof in a clean and tidy condition and will not permit waste paper, garbage, ashes or waste or objectionable material to accumulate thereon.

5.11. Tenant Shall Discharge All Liens. The Tenant shall promptly pay all its contractors and suppliers and shall do all things necessary to minimize the possibility of a lien attaching to the Leased Premises or to any or part of the Lands. Should any such lien be made or filed, the Tenant shall discharge the same forthwith at the Tenant's expense. In the event the Tenant shall fail to cause any such lien to be discharged as aforesaid, then, in addition to any other right or remedy of the Landlord, the Landlord may, but it shall not be so obligated, discharge same by paying the amount claimed to be due, together with interest costs and other amounts required to so discharge and vacate the said lien into Court or directly to any such lien claimant and the amount so paid by the Landlord and all costs and expenses including solicitor's fees (on a solicitor and his client basis) incurred herein for the discharge of such lien shall be due and payable by the Tenant to the Landlord on demand.

5.12. Inspect Premises. During the Term any person or persons may inspect the Leased Premises and all parts thereof upon twenty-four (24) hours notice by telephone or other means at all reasonable times, on producing a written order to that effect signed by the Landlord or its agents for the purpose related to the obligations or responsibilities of either party under the Lease.

6. ARTICLE SIX — USE OF LEASED PREMISES/ SERVICES

6.1. Services provided by Tenant. During the Term, or any renewal thereof, the Tenant shall manage and supervise all aspects of the operation of the Leased Premises, being a Community Hall. Without limiting the generality of the foregoing, the Tenant is responsible for the following:

a. Coordinating the use and rental of the Community Hall to community organizations, community groups, or others, for events or functions;

b. Collecting any rental monies due as a result of the events or functions held;

c. Establishing the rental fees for the use of the hall for events or functions; and

d. Screening potential users of the hall to confirm that the planned function or event is appropriate for the venue and will not be dangerous or likely to result in damage to the Leased Premises.

6.2. Services provided by Landlord. The Landlord will provide snow plowing services for the parking lot at no cost to the Tenant. However, these services will be provided in accordance with the Landlord's municipal plan and associated priorities for snow clearance of roads and other municipal properties, in its sole discretion.

6.3. Use of Premises. The Tenant covenants that it will not use or permit to be used any part of the Leased Premises for any dangerous, noxious or offensive trade or business, and will not cause or maintain any nuisance in, at or on the Leased Premises.

6.4. Compliance with Laws, etc. The Tenant shall promptly comply with all requirements of all applicable statutes, laws, by-laws, rules, regulations, ordinances and orders from time to time in force during the Term hereof, whether municipal, provincial, federal, or otherwise, including all lawful requirements of the local board of health, police and fire departments and municipal authorities and with every applicable regulation, or of any liability or fire insurance company by which the Landlord and Tenant or either of them may be insured at any time during the Term hereof.

6.5. Nuisance. The Tenant will not do or omit to do or permit to be done or omit anything upon or in respect of the Leased Premises, the doing or omission of which (as the case may be) shall be or result in a nuisance or menace to the Landlord or to local residents or businesses.

7. ARTICLE SEVEN — INSURANCE

7.1. Tenant's Insurance

a. The Tenant covenants and agrees at its own cost and expense to take out and keep in full force and effect and in the names of the Tenant and the Landlord as their respective interests may appear, the following insurance:

i. insurance upon properly of every description and kind owned by the Tenant, or for which the Tenant is legally liable or installed by or on behalf of the Tenant and which is located within the Lands, the Building and Leased Premises including, without limitation, stock-in-trade, furniture, fittings, installations, alterations, additions, partitions, fixtures and anything in the nature of a leasehold improvement in an amount of not less than one hundred percent (100%) of the full replacement cost thereof, with minimum coverage against at least, the perils of fire, and standard extended coverage including sprinkler leakages (where applicable), earthquake, flood and collapse. In the event that there is a dispute as to the amount which comprises full replacement cost, the decision of the Landlord shall be conclusive;

ii. Tenant's legal liability insurance for the full replacement cost of the Leased Premises, including loss of use thereof;

iii. property damage and public liability insurance including personal liability, contractual liability, non-owned automobile liability and owner's and contractors' protective insurance coverage with respect to the Leased Premises, and the Tenant's use of the Common Areas and Facilities, coverage to include the business operations conducted by the Tenant and any other person on the Leased Premises. Such policies shall be written on a comprehensive basis with limits of not less than $5,000,000 for bodily injury to any one or more persons, or property damage, and such higher limits as the Landlord may reasonably requires from time to lime, and all such policies shall contain a cross-liability clause;

iv. broad form blanket repair and replacement coverage on boilers, pressure vessels, air-conditioning equipment and miscellaneous apparatus;

v. any other form or forms of insurance as the Tenant or the Landlord reasonably requires from time to time in form, in amounts and for insurance risks against which a prudent Tenant would protect itself;

b. all property policies written on behalf of the Tenant shall contain if reasonably available, a waiver of subrogation rights which the Tenant's insurers may have against the Landlord and against those for whom the Landlord is in law responsible whether any such damage is caused by the act, omission or negligence of the Landlord or those for whom the Landlord is in law responsible;

c. all policies of Insurance purchased by the Tenants shall be taken out with insurers acceptable to the Landlord and shall be in a form satisfactory from time to time to the Landlord. The Tenant agrees that certificates of insurance or, if required by the Landlord, certified copies of each such insurance policy, will be delivered to the Landlord as soon as practicable after the placing of the required insurance. All policies shall contain an undertaking by the insurers to notify the Landlord in writing not less than thirty (30) days or such reasonable period of time as may be provided in such

policies prior to any material change, cancellation or termination thereof;

d. if the Tenant fails to take out or to keep in force any such insurance referred to in this Section or should any such insurance not be approved by either the Landlord and should the Tenant not rectify the situation within twenty-four (24) hours after written notice by the Landlord to the Tenant, the Landlord has the right without assuming any obligation in connection therewith, to effect such insurance at the sole cost of the Tenant and all outlays by the Landlord shall be immediately paid by the Tenant to the Landlord on the first day of the next month following said payment by the Landlord without prejudice to any other rights and remedies of the Landlord under this Lease; and

e. the Tenant covenants and agrees, at its sole cost and expense to replace any plate glass or other glass that has been broken or removed during the Term and will at all times keep the plate glass on the Leased Premises fully insured, pay the premiums therefor and provide the Landlord with a certificate of such plate glass insurance.

7.2. Increase in Insurance Premiums. If the Tenant's use and occupation of the Leased Premises, whether or not the Landlord has consented to same, causes any premium increase in casualty and other types of insurance that may be carried by the Landlord from time to lime in respect of the Lands, the Tenant shall pay any such increase in premiums within ten (10) days after a bill for such additional premiums shall be rendered by the Landlord. In determining whether such increased premiums are a result of the Tenant's use and occupancy of the Leased Premises, a schedule issued by the organization making the insurance rates on the Lands showing the various components of such rate shall be conclusive evidence of the several items and charges which make up such rate. The Tenant shall comply promptly with all requirements of any insurer, now or hereafter in effect, pertaining to or affecting the Leased Premises.

7.3. Cancellation of Insurance. If any insurance upon the Lands or any part thereof shall be cancelled or shall be threatened by the insurer to be cancelled, or the coverage thereunder reduced in any way by the insurer by reason of the use and occupation of the Leased Premises or any part thereof by the Tenant or by any sub-tenant of the Tenant or by anyone permitted by the Tenant to be upon the Leased Premises and if the Tenant fails to remedy the condition giving rise to the cancellation, threatened cancellation or reduction of coverage within twenty-four (24) hours after notice thereof by the Landlord, the Landlord may, at its option, either: (1) re-enter the Leased Premises forthwith by leaving upon the Leased Premises a notice in writing of its intention so to do and thereupon the Landlord's rights and remedies contained in Article Nine shall apply; or (2) enter upon the Leased Premises and remedy the condition giving rise to such cancellation, threatened cancellation or reduction and the Tenant shall forthwith on demand pay the costs thereof to the Landlord and the Landlord shall not be liable for any damage or injury caused to any property of the Tenant or of others located on the Leased Premises as a result of such entry, whether caused by the negligence of the Landlord, its agents, servants, employees or persons for whom it is in law

responsible.

7.4. Loss or Damage. The Landlord shall not be liable for any death or injury arising from or out of any occurrence in, upon, at, or relating to the Lands, the Building or the Leased Premises, or damage to property of the Tenant or of others located on the Leased Premises nor shall it be responsible for any loss of or damage to any property of the Tenant or others from any cause whatsoever. Without limiting the generality of the foregoing, the Landlord shall not be liable for any injury or damage to any persons or property resulting from fire, explosion, falling plaster, steam, gas, electricity, water, rain, flood, snow or leaks from any part of the Leased Premises or from the pipes, appliances, plumbing works, roof, or subsurface of any floor or ceiling or from the street or any other place or by dampness or by any other cause whatsoever. The Landlord shall not be liable for any such damage caused by other tenants or persons in the Building or on the Lands or by occupants of adjacent property thereto, or the public, or caused by construction, or caused by any private, public or quasi-public work or utility, including any interruption, cessation or failure of same. All property of the Tenant kept or stored on the Leased Premises shall be so kept or stored at the risk of the Tenant only and the Tenant shall indemnify and save harmless from any claims arising out of any damages to the same including, without limitation, any subrogation claims by the Tenant's insurers. The contents of this section shall survive the termination or surrender of this Lease notwithstanding anything in this Lease to the contrary.

7.5. Indemnification of Landlord. Notwithstanding any other terms, covenants and conditions contained in this Lease, the Tenant shall indemnify the Landlord and save it harmless from and against any and all loss, claims, actions, damages, liability and expense in connection with loss of life, personal injury, damage to property or any other loss or injury whatsoever arising from or out of this Lease or any occurrence in, upon, or at the Leased Premises or the occupancy or use by the Tenant of the Leased Premises or any part thereof, or occasioned wholly or in part by any act or omission of the Tenant or by anyone permitted to be on the Leased Premises by the Tenant. If the Landlord shall be made a party to any litigation commenced by or against the Tenant, then the Tenant shall protect, indemnify and hold the Landlord harmless and shall pay all costs, expenses and reasonable legal fees incurred or paid by the Landlord in connection with such litigation. The Tenant shall also pay all costs, expenses and legal fees (on a solicitor and client basis) that may be incurred or paid by the Landlord in enforcing the terms, covenants and conditions of this Lease, unless a Court shall decide otherwise. The contents of this section shall survive the termination or surrender of this Lease notwithstanding anything in this Lease to the contrary.

8. ARTICLE EIGHT — ASSIGNMENT AND SUBLETTING

8.1. Assignment. The Tenant may not assign this Lease.

8.2. Subletting. The Tenant may not sub-let the Leased Premises. For certainty, however, in this section "Subletting" does not include providing the Tenant's services in respect of the rental of the Community Hall as outlined in Article Seven of this Lease.

9. ARTICLE NINE — DEFAULT

9.1. No Exceptions for Distress. Notwithstanding the benefit of any present or future statute taking away or limiting the Landlord's right of distress, none of the goods and chattels of the Tenant on the Leased Premises at any time during the Term shall be exempt from levy by distress for Rent in arrears or other amounts owing to the Landlord by the Tenant pursuant to the terms of this Lease, and that upon any claim being made for such exemption by the Tenant upon distress being made by the Landlord, this covenant and agreement may be pleaded as an estoppel against the Tenant in any action brought to test the right to the levying upon any such goods or chattels; the Tenant waiving as it hereby docs all and every benefit that could or might have accrued to it by any present or future statute but for this covenant.

9.2. Right to Re-Enter. In the event that:

a. the Tenant dissolves, becomes inactive, or its status as a Society ceases or lapses, for failure to file necessary corporate registry returns or notices, or any other reason;

b. the Tenant fails to pay any Rent or other sums due hereunder on the day or dates appointed for the payment thereof, and docs not remit such payment within five (5) days of receipt of written notice from the Landlord demanding the payment thereof; or

c. the Tenant fails to observe or perform any other of the terms, covenants or conditions of this Lease to be observed or performed by the Tenant (provided the Landlord first gives the Tenant thirty (30) days written notice or no notice in case of a real or apprehended emergency of any such failure to perform) and the Tenant within such period of thirty (30) days fails to cure or takes reasonable steps to cure any such failure to perform; or

d. the Tenant assigns, transfers, encumbers, sublets or permits the occupation or use or the parting with or sharing possession of all or any part of the Leased Premises by anyone except in a manner permitted by this Lease; or

e. the Tenant is late in the payment of Rent or any other sum due hereunder on three (3) separate occasions during any twelve month period; or

f. re-entry is permitted under any other terms of this Lease;

then the Landlord, in addition to any other rights or remedies it has pursuant to this Lease, or by law, has to the extent permitted by law, the immediate right of re-entry in the name of the whole, upon and in the Leased Premises or any part thereof and may expel all persons and remove all property from the Leased Premises and such property may be removed and sold or disposed of by the Landlord as it deems advisable or may be stored in a public warehouse or elsewhere at the cost and for the account of the Tenant, all without the Landlord being considered guilty of trespass or becoming liable for any loss or damage which may be occasioned thereby. Upon such re-entry, the Landlord shall be entitled to have again, repossess and enjoy, as of its former estate, the Leased Premises.

9.3. Right to Relet. If the Landlord elects to re-enter the Leased Premises as provided in this Lease or if it takes possession pursuant to legal proceedings or pursuant to any notice provided by law, it may either terminate this Lease or it may from time to lime without terminating this Lease, make such alterations and repairs as are necessary in order to relet the Leased Premises, or any part thereof for such term or terms (which may be for a term extending beyond the Term) and at such rent and upon such other terms, covenants and conditions as the Landlord in its sole and reasonable discretion considers advisable. Upon each such reletting all rent received by the Landlord from such reletting shall be applied, first, to the payment of any indebtedness other than rent due hereunder from the Tenant to the Landlord; second, to the payment of any costs and expenses of such reletting including solicitor's fees and of costs of such alterations and repairs; third, to the payment of Rent, and other monies payable under this Lease which are due and unpaid hereunder; and the residue, if any, shall be held by the Landlord and applied in payment of future rent as the same becomes due and payable hereunder.

9.4. Expenses. If legal action is brought for recovery of possession of the Leased Premises, for the recovery of Rent or any other amount due under this Lease or because of the breach of any other terms, covenants or conditions herein contained on the part of the Tenant to be kept or performed and a breach is established, the Tenant shall pay to the Landlord all expenses incurred therefore, including legal fees (on a solicitor and his client basis).

9.5. Removal of Goods. In the event of removal by the Tenant of the goods and chattels of the Tenant from off the Leased Premises, the Landlord may follow the same for thirty (30) days.

9.6. Remedies Cumulative. Notwithstanding any other provision of this Lease, the Landlord may from time to time resort to any or all of the rights and remedies available to it in the event of any default hereunder by the Tenant, either by any provision of this Lease, by statute or common law, all of which rights and remedies are intended to be cumulative and not alternative, and the express provisions hereunder as to certain rights and remedies are not to be interpreted as excluding any other or additional rights and remedies available to the Landlord by statute or the general law.

10. ARTICLE TEN —SUCCESSORS

10.1. Successors. All rights and liabilities herein given to, or imposed upon, the respective parties hereto shall extend to and bind the respective heirs, administrators, successors and permitted assigns of the said parties; and if there shall be more than one Tenant, they shall all be bound jointly and severally by the terms, covenants and agreements herein contained.

11. ARTICLE ELEVEN — LANDLORD'S COVENANTS AND OBLIGATIONS

11.1. Provided that the Tenant has paid the Rent and all other sums payable pursuant to this Lease and has complied with all of the terms, covenants and conditions of this Lease, the Landlord covenants and agrees to and with the Tenant that it will provide Quiet Enjoyment of the Leased Premises.

12. ARTICLE TWELVE — MISCELLANEOUS

12.1. Force Majeure. Notwithstanding anything to the contrary contained in this Lease, if the Landlord or the Tenant is delayed or hindered in or prevented from the performance of any term, covenant or act required hereunder by reason of being unable to obtain materials, goods, equipment, services or labour; power failure; riots, insurrection, sabotage, rebellion, war, act of God, or by reason of any Statute, law or Order in Council, or any regulation or Order passed or made pursuant thereto, or by reason of the Order or Direction of any Administrator, Comptroller, Board, Governmental Department or Office, or other authority required thereby, or by reason of any other cause beyond its control, whether of the foregoing character or not, the Landlord or the Tenant, as the case may be, shall be relieved from the fulfillment of such obligation and the Tenant or the Landlord respectively shall not be entitled to compensation for any inconvenience, nuisance, or discomfort thereby occasioned. This section shall not apply to the payment of Rent by the Tenant.

12.2. Notices. Any notice, request or demand herein provided for or given hereunder if given by the Tenant to the Landlord shall be sufficiently given if delivered or if mailed by registered mail, postage prepaid, addressed to the Landlord at:

The Town of Onoway, Box 540, Onoway, Alberta T0E 1V0

Any notice herein provided for or given hereunder if given by the Landlord to Tenant shall be sufficiently given if delivered or mailed by registered mail, postage prepaid, addressed to the Tenant at:

Box 524, Onoway, Alberta T0E 1V0

Any notice mailed as aforesaid shall be conclusively deemed to have been given on the third business day following the day on which such notice is mailed as aforesaid. Either the Landlord or Tenant may at any time give notice in writing to the other of any change of address of the party giving such notice and from and after the giving of such notice provided such new address is within the province of Alberta the address therein specified shall be deemed to be the address of such party for the giving of such notices thereafter. In the event of a mail strike or other interruption in the delivery of mail, all notices, requests or demands shall be hand delivered or by telegram.

12.3. Waiver of Breach. The waiver by the Landlord of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of such term, covenant or condition or any subsequent breach of the same or any other term covenant or condition herein contained. The subsequent acceptance of Rent or other sums payable hereunder by the Landlord shall not be deemed to be a waiver of any preceding breach by the Tenant of any term, covenant or condition of this Lease, regardless of the Landlord's knowledge of such preceding breach at the time of acceptance of such Rent or other sum payable. No covenant, term or condition of this Lease shall be deemed to have been waived by the Landlord unless such waiver is in writing and signed by the Landlord.

12.4. Entire Agreement. This Lease, together with the rules and regulations promulgated by the Landlord, from time to time, set forth all the covenants, promises, agreements, conditions and understandings between the Landlord and the Tenant concerning the Leased Premises and there are no covenants, promises, agreements, conditions or understandings, either oral or written, between them other than are herein set forth. This Lease replaces any prior agreement between the parties as to the lease of the Leased Premises. Except as herein otherwise provided no subsequent alteration, amendment, change or addition to this Lease shall be binding upon the Landlord or the Tenant unless in writing and signed by each of them.

12.5. The use of the neuter singular pronoun to refer to the Landlord or the Tenant shall be deemed a proper reference even though the Landlord or the Tenant may be an individual, a partnership, a corporation, or a group of two or more individuals or corporations. The necessary grammatical changes required to make the provisions of this Lease apply in the plural sense where there is more than one Landlord or Tenant and to either corporations, associations, partnerships or individuals, males or females, shall in all instances be assumed as though in each case fully expressed. Each party hereto acknowledges that it and its legal counsel have reviewed and participated in settling the terms of this Lease, and the parties hereby agree that any rule of construction to the effect that any ambiguity is to be resolved against the drafting party shall not be applicable in the interpretation of this Lease.

12.6. Partial Invalidity. If any term, covenant or condition of this Lease or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Lease shall be valid and enforced to the fullest extent permitted by law.

12.7. Registration. The Tenant shall not register this Lease at the Land Titles Office without the advance written consent of the Landlord.

12.8. Governing Law. This Lease shall be construed in accordance with and governed by the laws of the Province of Alberta.

12.9. Time of the Essence. Time shall be of the essence of this Lease and of every part hereof.

IN WITNESS WHEREOF the Landlord and Tenant have executed this Lease on the day and year first written above.

) **The Landlord:**
)
) **The Town of Onoway**
) **Per:**
)
) **(SEAL)**
)
)
) **Name:** Judy Tracy
) **Position:** Mayor

Name: Wendy Widman
Position: CAO

Signed by the said Tenant in the presence of:

(witness)

) **The Tenant:**
)
) **Onoway Facility Enhancement Association**
) **Per:**
)
)
) **Name:** Corinne Feth
) **Position:** Chair

Approved by Council at the March 13th, 2018 Regular Council Meeting.

Lac Ste. Anne County Library Board

July 10, 2020

Attention: Council
Town of Onoway
Box 540
Onoway, AB T0E 1V0

RE: Municipal Funding to Local Libraries

The Lac Ste. Anne County Library Board (the Board) was established through bylaw of Lac Ste. Anne County (LSAC) and operates three service point libraries: Darwell Public Library, Rich Valley Public Library, and Sangudo Public Library. The Board recognizes that County residents also access libraries in our neighboring municipalities, thus provides funding to the Alberta Beach Municipal Library, the Mayerthorpe Public Library and the Onoway Public Library. All funding provided by the Board is provided on an equitable per capita basis, based on library service areas determined by the Board. The County's population figures are determined by the most current data available, which for 2020 is the 2016 census data.

Annual increases in funding to the Board from LSAC confirms the commitment of LSAC Council to supporting libraries in local communities, with per capita funding growing from $8.28 per capita in 2008 to $15.57 per capita in 2020.

In many rural communities, libraries are a hub for information, socialization, and connectiveness. Sadly, they also struggle financially to make ends meet. I write to you today to ask you to review what funding your municipality currently provides to your local library (or libraries) and to request any additional funding increases possible to support those facilities. I know that any funding provided will be used conscientiously to support the patrons of that library in the most effective means possible.

Please take the time to visit your local library, talk to the Library Manager, and see what you and your municipality can do to support the amazing work they do in your community. If we all work together to support this community resource, they not only will survive, but will thrive.

Sincerely,

Judy Kidd

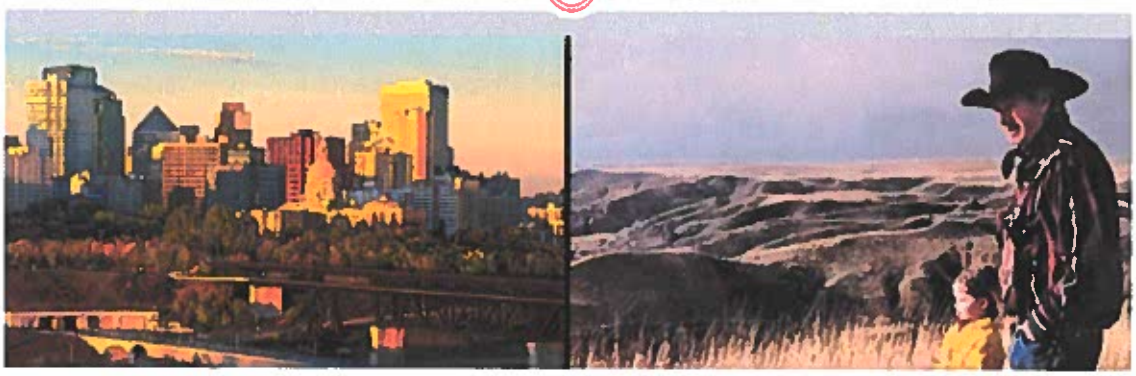
Judy Kidd, Chairperson
Lac Ste. Anne County Library Board

JK/dk

Phone 780-785-3411 or 1-866-880-5722 Fax 780-785-3259 Email dkerr@lsac.ca
Mailing Address c/o Box 219 Sangudo, AB T0E 2A0

From: Jessica Kinsella <coordinator@acaging.ca>
Sent: August 7, 2020 8:56 AM
To: undisclosed-recipients:
Subject: October 1 - Celebrate International Day of Older Persons

Alberta Council on Aging



October 1 - Celebrate International Day of Older Persons with us!

Greetings,

Alberta Council on Aging calls on Albertan municipalities and their various organizations to join in celebrating International Day of Older Persons on October 1, 2020.

This year marks the 75th Anniversary of the United Nations and the 30th Anniversary of the International Day of Older Persons (UNIDOP). This year has also seen the emergence of COVID-19 which has caused an upheaval across the world. It has also raised the question: **How do pandemics change how we address age and ageing?**

Marking this day emphasizes the value of seniors and raises awareness about the inequalities and barriers older adults face. **Let us also recognize and celebrate positive age and honor the older adults in our communities.**

Alberta Council on Aging thanks the following communities that declared International Day of Older Persons in 2019: Province of Alberta, Sexsmith, Grande Prairie, Bonnyville, St. Paul, Lac la Biche, Legal, Red Deer, Barrhead, Drayton Valley, Calmar, Ponoka, Calgary, Edmonton (Sage Seniors Association), Okotoks, Medicine Hat (Chinook Village), and Bruderheim.

70

Our hope this year is **all** communities will commemorate International Day of Older Persons. How might you do this?

Declare International Day of Older Persons

Make a proclamation to declare October 1 as International Day of Older Persons.

Host an Event

Celebrate age in your community showcasing your older adults through local and social media

Attached you will find the following support documents. Let me know if you have any questions.

1. Letter of Invite
2. 2020 IDOP Declaration Template

Let us celebrate together! I look forward to hearing from you.

Kind regards,

Jessica

--
Jessica Kinsella
Volunteer Coordinator
coordinator@acaging.ca
Work Cell: 780-977-7462

71

Alberta Council on Aging

An Independent Non-Profit Charitable Organization Since 1967

August 1, 2020

Greetings,

Alberta Council on Aging calls on Albertan municipalities and their various organizations to join in celebrating International Day of Older Persons on October 1, 2020.

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Let us celebrate together! I look forward to hearing from you.

Jessica

Jessica Kinsella
Volunteer Coordinator
Alberta Council on Aging
780.977.7462 (Office Cell)
coordinator@acaging.ca
www.acaging.ca

72

International Day of Older Persons Declaration October 1, 2020

Pandemics: Do They Change How We Address Age & Ageing?

DECLARATION

WHEREAS the [INSERT CITY, TOWN, MUNICIPALITY] recognizes and values the experience, contributions, and wisdom of seniors; and

WHEREAS the declaration of International Day of Older Persons would give us the opportunity to build greater awareness, understanding and appreciation of seniors; and

WHEREAS an International Day of Older Persons will stand as an important annual occasion to celebrate the strength and community connections of seniors in our province.

THEREFORE, I, [INSERT NAME AND TITLE] DO HEREBY DECLARE OCTOBER 1, 2020 AS INTERNATIONAL DAY OF OLDER PERSONS IN THE [INSERT CITY/TOWN/MUNICIPALITY]

_____

[Name and Title]
[City, Town, Municipality]
Click or tap to enter a date.

From: President <President@auma.ca>
Sent: August 12, 2020 9:54 AM
To: info@onoway.ca; cao@onoway.ca
Subject: Assessment Model Review Urban Impacts Report

Dear Mayors and CAOs:

To maximize the understanding of the impact of the province's Assessment Model Review focusing on regulated properties (review only included Wells and Pipelines), AUMA and RMA completed data analysis on the assessment base loss and tax revenue loss for each municipality in Alberta. The Impacts Report for your municipality is attached to this email.

The province's Assessment Model Review process created four (4) scenarios, by adjusting various assessment model variables (i.e. depreciation rates, capitalized costs, rates for land holdings, etc.). These scenarios are labeled A, B, C and D, on the attached Impact Reports, with scenario A being the least impactful to municipal revenues and scenario D being the most impactful. Your report also includes potential municipal responses to these losses.

AUMA will be hosting an information and discussion session for members on the Assessment Model Review which will be held through Zoom on Friday, August 14 from 12:00 p.m. to 1:30 p.m.

Join us this Friday to learn about the province's aim in undertaking this review and what the process has entailed to date. We will also more fully explain these municipality Impact Reports.

We also want to hear your thoughts about the province's proposals and what steps AUMA, and municipalities need to take to ensure that the province receives and acts on our feedback.

If you have specific questions about your Impacts Report, please email Jody Dittrich, Policy Analyst, at jdittrich@auma.ca.

Thank you,

Barry Morishita | President
Mayor, City of Brooks

C: 403.363.9224 | president@auma.ca
Alberta Municipal Place | 300 8616-51 Ave Edmonton, AB T6E 6E6
Toll Free: 310-AUMA | www.auma.ca

74

ONOWAY - ASSESSMENT MODEL REVIEW

IMPACTS REPORT

Municipal Impacts

Based on the data provided by Municipal Affairs and your reported financial data from the MFIS database, our models make the following predictions for your municipality. Please keep in mind that due to the limits of data provided, we are unable to project past the first year of implementation. Because of the significant changes to the depreciation curves under most of the models, we suspect that there will be further negative impacts in the future.

Scenario Tax Impacts	Scenario A	Scenario B	Scenario C	Scenario D
Total Assessment Base Loss	$-464,424 (-0%)	$-501,698 (-0%)	$-509,676 (-0%)	$-522,329 (-0%)
M&E Assessment Base Loss (%)	0%	0%	0%	0%
LP Assessment Base Loss (%)	-22%	-24%	-24%	-25%
M&E Tax $ Loss (2019 Mill Rate)	$0	$0	$0	$0
Linear Tax $ Loss (2019 Mill Rate)	$-8,082	$-8,731	$-8,870	$-9,090
Percent Loss of Total Revenue	-0%	-0%	-0%	-0%

Municipal Response Options

We recognize that members with dramatic changes in revenue will have very few opportunities to respond. We have provided some general statistics to illustrate the context that these changes may have on operations. These should not be seen as recommendations only provided for context.

Potential Rural Municipality Response Impacts	Scenario A	Scenario B	Scenario C	Scenario D
Residential Mill Rate Increase	1.3%	1.4%	1.4%	1.4%
OR				
Non-Residential Mill Rate Increase (Excluding 5:1 limits)	1.3%	1.4%	1.4%	1.5%
Tax capacity shortfall due to 5:1 ratio (includes tax capacity loss still required to achieve 5:1)	$0	$0	$0	$0
OR				
Workforce Cuts to cover losses (% of total FTE's)	1.2%	1.3%	1.3%	1.3%
FTE's at risk	0.07	0.08	0.08	0.08
OR				
Total Expense Reduction % (including capital infrastructure investment)	0.25%	0.27%	0.27%	0.28%
OR				
Time shortfall can be covered by Unallocated Reserves (months)	n/a	n/a	n/a	n/a

LAC STE. ANNE COUNTY

July 30, 2020

Dear Urban Neighbours

Subject: Provincial Assessment Model Review

We are writing to each of you to advise and request your assistance with the extremely important changes proposed by the Provincial Government respecting the Assessment Model Review.

Information is enclosed that explains what is being proposed for 2021. The simple fact is Lac Ste. Anne County is looking at a net reduction in M&E and Linear taxation revenue of $1.3 million to $1.9 million.

While this is only proposed at this time, the Province is close to making its decision. We need you to inform your (our) MLA, in addition to the Minister of Municipal Affairs and Premier Kenney, that the effect of the proposed changes will have drastic effects. External funding provided by Lac Ste. Anne County to its urban partners is threatened. The County will not be in a position to support any of your facilities or programs, as we would need to cut our budget by the $1.3 million - $1.9 million in 2021.

Please reach out to your provincial elected and voice the very real concerns. This will have an immediate effect on all of you.

If you require additional information please contact Reeve Blakeman at 780-918-1916 or CAO Mike Primeau at 780-785-3411.

We thank you for your support of this devastating proposal for municipalities throughout the province.

Sincerely,

Joe Blakeman

Reeve, Lac Ste. Anne County

Enclosure

Distribution:

Town of Mayerthorpe
Town of Onoway
Village of Alberta Beach
SV of Birch Cove
SV of Castle Island
SV of Nakamu Park
SV of Ross Haven
SV of Sandy Beach
SV of Silver Sands
SV of South View
SV of Sunrise Beach
SV of Sunset Point
SV of Val Quentin
SV of West Cove
SV of Yellowstone

cc: Shane Getson, MLA
Lac Ste. Anne County Councillors
Mike Primeau, County Manager

RMA
RURAL MUNICIPALITIES of ALBERTA

Assessment Model Review
IMPACTS REPORT

LAC STE. ANNE COUNTY

The Government of Alberta is proposing assessment model changes, which could affect your municipality's revenue.

TOTAL REVENUE MAY CHANGE BY AS MUCH AS

↓8%

For more context and scenarios, please review the back.

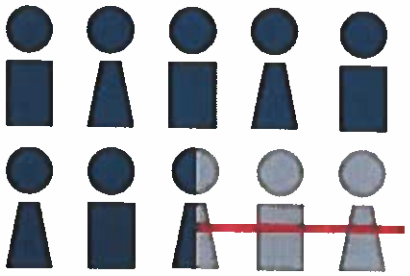
To compensate, you may need to adjust:

RESIDENTIAL MILL RATE BY AS MUCH AS

↑25.3%

OR

FULL-TIME STAFF BY AS MUCH AS 24.9%



For more context and scenarios, please review the back.

78

Over the past several months, RMA has participated in a Government of Alberta-led review of the assessment model for oil and gas properties such as wells and pipelines. In addition to RMA, the following organizations participated in the review:

- Alberta Urban Municipalities Association
- Canadian Association of Petroleum Producers
- Explorers and Producers Association of Canada
- Canadian Energy Pipeline Association
- Canadian Property Taxpayers Association

According to the Government of Alberta, the review was intended to "modernize" the assessment model for oil and gas properties to enhance industry competitiveness while ensuring municipal viability.

Due to strict confidentiality requirements, RMA has been unable to provide members with an update on the review process. At this point, the Government of Alberta has finalized recommended changes to the model and have briefed relevant provincial ministers and decision-makers on the recommendations. RMA (and the other organizations involved in the review) now have an opportunity to advocate to those same ministers and decision-makers on the impacts of the recommended changes.

The review concluded with four scenarios to be presented to provincial decision-makers, each of which represents different changes to the assessment model and different impacts on municipalities and industry. All scenarios reduce overall assessment values of the property impacted by the review, with province-wide reductions ranging from 7% in scenario A to 20% in scenario D. However, the impacts of the changes vary among municipalities and companies. Some municipalities will lose significant assessment value, while others will see their assessment increase. Similarly, some companies will benefit greatly from each scenario in the form of reduced assessments, while others (mainly small companies) will see massive increases in assessment. This document shows the province-wide impacts of each scenario. RMA is not aware of whether the Government of Alberta favors a specific scenario. Industry representatives have vocally supported scenario D, which most drastically reduces assessment.

Unfortunately, no multi-year impact analysis has been shared for the scenarios. All data focuses only on the first year of implementation, though due to steeper depreciation curves and other changes, municipal impacts will become more severe as assets age. It is important to note that even municipalities that are minimally impacted in year one may face much more serious impacts in year five or ten.

As will be evident in this document and other information shared with members, RMA is strongly opposed to the recommended changes to the assessment model and their impacts on both municipal viability and industry competitiveness. The remainder of this document will summarize key points from various RMA input during the review process that demonstrates the impacts of the recommended changes on municipalities and industry and proposes alternative approaches to enhancing industry competitiveness that are more transparent, targeted and effective than the proposed assessment model changes. This information was provided to the Government of Alberta during the review process and has been submitted formally to the Minister of Municipal Affairs in advance of the internal provincial minister and decision-maker briefings.

RMA
RURAL MUNICIPALITIES of ALBERTA

LAC STE. ANNE COUNTY

MUNICIPAL IMPACTS

Based on the assessment model review scenarios provided by the Government of Alberta and financial data from the MFIS database, RMA's models make the following municipal predictions. Due to the limits of data provided, we are unable to project past the first year of implementation. Because of the significant changes to the depreciation curves under most of the models, there will be increased impacts in the future as assets age.

SCENARIO TAX IMPACTS	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D
Total Assessment Base Loss	$-69,066,199 (-3%)	$-74,652,414 (-4%)	$-80,680,971 (-4%)	$-102,181,337 (-5%)
M&E Assessment Base Loss (%)	-14%	-14%	-14%	-14%
LP Assessment Base Loss (%)	-22%	-25%	-27%	-35%
M&E Tax $ Loss (2019 Mill Rate)	$-180,030	$-180,030	$-180,030	$-180,030
Linear Tax $ Loss (2019 Mill Rate)	$-1,139,963	$-1,246,727	$-1,361,944	$-1,772,859
Percent Loss of Total Revenue	-5%	-6%	-6%	-8%

MUNICIPAL RESPONSE OPTIONS

The response options below demonstrate how significant non-residential assessment and taxation is for rural municipalities. Even a modest reduction in oil and gas assessment may require municipalities to drastically increase tax rates or reduce expenses. In other words, changes to assessment have significant domino effects on rural municipalities. These illustrate hypothetical impacts that the changes may have on operations based on available data. These should not be seen as recommendations, as they are only provided for context.

POTENTIAL RURAL MUNICIPALITY RESPONSE IMPACTS	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D
Residential Mill Rate Increase	17.1%	18.5%	20.0%	25.3%
OR				
Non-Residential Mill Rate Increase (Excluding 5:1 limits)	21.8%	24.0%	26.5%	36.1%
Tax capacity shortfall due to 5:1 ratio (includes tax capacity loss still required to achieve 5:1)	$18,125	$149,325	$290,914	$795,882
OR				
Workforce cuts to cover losses (% of total FTE's)	16.8%	18.2%	19.7%	24.9%
FTE's at risk	12.46	13.47	14.56	18.44
OR				
Total Expense Reduction % (including capital infrastructure investment)	5.64%	6.10%	6.59%	8.35%
OR				
Time shortfall can be covered by Unallocated Reserves (Months)	0	0	0	0

From: President <President@auma.ca>
Sent: August 7, 2020 6:19 PM
Subject: AUMA statement on AHS changes to municipal 911 dispatch

Good evening Mayors, Councillors and CAOs,

Below is our statement that we released today regarding AHS changes to municipal 911 dispatch.

AUMA statement on AHS changes to municipal 911 dispatch

Earlier this week, Alberta Health Services announced that EMS 911 dispatch services will be consolidated across the province, taking away dispatch centres operated by four AUMA member municipalities: Calgary, Lethbridge, Red Deer, and the Regional Municipality of Wood Buffalo. These four municipally-run EMS dispatch sites have provided reliable, efficient EMS dispatch services for decades, with response times at or below provincial benchmarks.

We share the Government of Alberta's commitment to the delivery of effective, efficient, and accessible EMS services for Albertans, but two aspects of this sudden announcement are concerning.

1) We need more information about the impact of consolidation on response times.

While we understand a move toward efficiency, we have not seen data to indicate that response times will not be negatively impacted. Monetary savings should not be the main driver of this decision. A delay in response times, even of a few seconds, will cost lives and erode trust in the system.

2) We are frustrated by the lack of consultation.

We are extremely disappointed with the lack of consultation both by the provincial government in making this announcement and their consultant, Ernst & Young, who failed to consult with municipalities during their comprehensive review process. Due to a lack of consultation in 2007, the first time ambulance dispatch was consolidated, significant issues arose. The transition had to be paused, which resulted in ambulance service delays and project cost overruns. Municipal engagement and consultation are critical to ensuring that changes to provincial policies and programs are successfully implemented.

This announcement caught us, and our four impacted member municipalities, by surprise. Substantive changes should not occur in a vacuum or without consulting stakeholders. The mayors of Calgary, Red Deer, Lethbridge and Regional Municipality of Wood Buffalo made every effort to communicate with the provincial government, as they outlined in their media conference on August 5 (view part 1, part 2, and part 3). It is unfortunate that these collaborative efforts were not returned by the Government of Alberta.

Albertans will measure the success of this change not by the dollars saved, but by any changes to EMS services and response times. We urge the Minister of Health to rethink this decision and keep EMS dispatch located in the communities.

We wish to work with the Government of Alberta to provide the most efficient and effective system of EMS response that best serves those in need and saves lives. As we stated last month, a real commitment by the provincial government to collaborate with AUMA and its membership is the only way forward to rebuild the prosperity of our communities and our province.

Best regards,

(81)

Barry Morishita | President
Mayor, City of Brooks

C: 403.363.9224 | president@auma.ca
Alberta Municipal Place | 300 8616-51 Ave Edmonton, AB T6E 6E6
Toll Free: 310-AUMA | www.auma.ca

82

ALBERTA
HEALTH

Office of the Minister
MLA, Calgary - Acadia

AR 174016

July 28, 2020

Her Worship Judy Tracy
Mayor
Town of Onoway
Box 540
Onoway AB T0E 1V0

Dear Mayor Tracy:

Thank you for your letter on behalf of the Town of Onoway and nine other municipalities, regarding medical first response (MFR) and co-response by fire services on emergency medical services (EMS) calls.

As you stated, with the onset of the COVID-19 pandemic, Alberta Health Services (AHS) made a decision to cease dispatching MFR agencies to non-life-threatening events. This step was taken to limit the number of resources dispatched to non-critical events (hence reducing potential front-line exposures), and to ensure the integrity of personal protective equipment (PPE) supply.

MFR agencies are still dispatched to life-threatening events (Delta and Echo calls), and may receive co-response requests from EMS as needed (e.g. for lift assists). MFR is not EMS and therefore not part of the health system; instead, MFR is an optional public safety service provided by municipalities, and funded through municipal budgets.

As you are aware, many MFR agencies are enrolled in the provincial MFR program administered by AHS EMS. These individual agencies have agreed with AHS to respond to certain call types, which vary among the agencies.

AHS understands there may be situations, for a variety of reasons, where an agency is not available to respond and assist EMS. One of the principles of the MFR Program is that MFR event response is voluntary and provided so long as the agency has the capacity to do so. Agencies can choose to withdraw their enrollment with the MFR program if they no longer wish to provide this assistance.

The decision to limit MFR response to Delta and Echo calls was made by AHS and implemented by the EMS dispatch system. Information about the new policy, which remains in place following the end of the public health emergency, is available on AHS' website for the MFR program at albertamfr.ca, and is also contained in AHS EMS' COVID-19 Interim Guidance document issued to EMS practitioners.

.../2

423 Legislature Building, 10800 - 97 Avenue, Edmonton, Alberta T5K 2B6 Canada Telephone 780-427-3665 Fax 780-415-0961

Regarding your concerns about consultation with rural municipalities and ambulance response times in rural Alberta, I encourage you to contact Darren Sandbeck, Senior Provincial Director and Chief Paramedic with AHS, at 403-701-3070 or darren.sandbeck@ahs.ca.

If you have any questions about the MFR program, you may wish to contact Blaine Barody, Manager of the MFR program with AHS EMS, at 780-638-2458 or blaine.barody@ahs.ca.

Thank you again for writing and for your advocacy on behalf of the residents in your town and other municipalities.

Sincerely,

Tyler Shandro, Q.C.
Minister of Health

cc: Shane Getson, MLA, Lac Ste. Anne-Parkland
Darren Sandbeck, Senior Provincial Director and Chief Paramedic, AHS
Blaine Barody, Manager, MFR Program, AHS EMS

84

TOWN OF ONOWAY

Box 540, 4812 – 51 Street, Onoway, Alberta, T0E 1V0
Phone (780) 967-5338 Fax (780) 967-3226 Email: info@onoway.ca

August 19th, 2020

Date of Mailing: August 19th, 2020 / Date of Notice: August 26th, 2020

NOTICE OF PUBLIC HEARING
MUNICIPAL DEVELOPMENT PLAN - BYLAW 776-20

Dear Resident:

Re: Municipal Development Plan (MDP) – Bylaw 776-20 – Public Hearing

TAKE NOTICE that pursuant to the Municipal Government Act, R.S.A. 2000, c. M-26, as amended, the Council of the Town of Onoway proposes to pass a Bylaw providing for the adoption of a new Municipal Development Plan (MDP). As required under the Act, a Public Hearing is required as part of this process. The purpose of this Notice is to provide details on the Public Hearing and invite your participation in the process.

As part of the Bylaw and Policy Review Project, a joint project with other municipal partners which began in 2017, Council has reviewed several elements of the legislative framework for the municipality. Council began their review of the MDP in 2018; working with our project consultant, public open houses were completed later that year and, along with the comments received through additional community survey, a final draft of the new MDP has been prepared. Bylaw 776-20, to which this new MDP is a schedule and forms a part of, has been reviewed by Council and was given first reading during the August 6, 2020 Council meeting. A Public Hearing is required before Council can consider further readings of the Bylaw.

A copy of the proposed Bylaw 776-20, along with a copy of the new MDP and additional background, is available on the Town of Onoway's website at www.townofonoway.ca. A copy may also be obtained by contacting the administration office and requesting either a paper or electronic copy. The documents may also be viewed by appointment at 4812-51st, Onoway, AB (the administration office).

THE REQUIRED PUBLIC HEARING HAS BEEN SCHEDULED AS FOLLOWS:

Date: **Thursday, September 17, 2020**
Time: **10:00 a.m.**
Location: **Onoway Heritage Centre, Gymnasium Room**
4708 Lac Ste. Anne Trail North
Onoway, AB, Canada, T0E 1V0

85

TOWN OF ONOWAY

Box 540, 4812 – 51 Street, Onoway, Alberta, T0E 1V0
Phone (780) 967-5338 Fax (780) 967-3226 Email: info@onoway.ca

Anyone wishing to make verbal representation may do so at this time. As a property owner in the Town of Onoway, you may also make a written submission to Council for their consideration. Details on how/when to provide comments are outlined below.

Any written submission must be provided within fourteen (14) days of the date of notice which is **September 10th, 2020 (*takes into account the weekend and stat holiday)***. If you wish to make a submission, your submission should contain:

1. your name and address;
2. the location of your land; and
3. your comments.

Submissions can be provided to:
Town of Onoway Administration Office
Mail: Box 540, 4812- 51 Street, Onoway, AB T0E 1V0
Fax: 780-967-3226
Email: info@onoway.ca

Questions can be directed to:
Town of Onoway Administration Office
Via Email: info@onoway.ca

If you do plan on attending the Public Hearing, please confirm this by contacting the administration office. The ability to hold public meetings may change with evolving COVID-19 guidelines, and regardless we will want to make sure we have the facility set up appropriately for the expected attendance. Thank you for your cooperation on this matter.

Sincerely,

Wendy Wildman
Chief Administrative Officer
Town of Onoway

Dated at Onoway, Alberta this 19th day of August 2020

86

cao@onoway.ca

From:	JSG PSD Engagement <JSG.PSDEngagement@gov.ab.ca>
Sent:	July 29, 2020 12:42 PM
Cc:	Lisa Gagnier
Subject:	Police Funding Regulation and Police Funding Model - Update
Attachments:	PFM Example Calculation Sheet (web).pdf; PFM Fact Sheet (web).pdf; PFM Municipal Tables (web).xlsx

Good afternoon,

Information related to the Police Funding Regulation and the Police Funding Model (PFM) including an explanation of the formula used for calculating how costs are distributed to municipalities are attached. There is also a spreadsheet listing the estimated costs that will be invoiced to each municipality included in the regulation. Estimates are provided for a five-year period.

The link to these attachments is also provided below:
https://open.alberta.ca/publications/police-funding-regulation-information-sheet

Classification: Protected A

87

Police Funding Regulation Information Sheet

What is it?

The *Police Funding Regulation* came into force on April 1, 2020 and was created to implement two separate initiatives, both of which address police funding and resourcing matters. These are:

1) The implementation of the Police Funding Model (PFM), and
2) The absorption of Option 1 Enhanced Policing Positions (EPPs).

The Police Funding Model

What is it?

Providing adequate and effective policing services in the province of Alberta is the responsibility of the provincial government under the *Police Act*.

The police funding model (PFM) takes the total cost of frontline officers and redistributes a portion of those costs to municipalities who receive the services of the Provincial Police Service (RCMP).

The new PFM requires those communities that have not previously paid for frontline policing to begin contributing a portion of the costs.

The model includes five variables that are used in calculations to distribute the province's costs:

- equalized assessment;
- population;
- crime severity;
- shadow population; and
- detachment location.

Engagement

Stakeholders were able to provide feedback on the test model during webinars and by responding to a survey.

Stakeholders included representatives from:

- Alberta Urban Municipalities Association;
- Rural Municipalities of Alberta; and
- Elected and administrative municipal representatives.

Stakeholders offered valuable perspectives on the costs of policing in Alberta. Feedback from the engagement highlighted several areas of stakeholder concerns.

Based on feedback, JSG amended the test model.

The formula for distribution of costs

Each municipality will have their costs calculated according to a formula comprised of a base amount adjusted by modifiers, where appropriate.

- Base cost (total share of policing costs) formula: **Weighted equalized assessment (50%) + weighted population (50%) = base**
- Modifier (subsidies) formulas:
  - **Shadow population:** Subsidy given (max 5%) if officially recognized by the Government of Alberta or according to the President of Treasury Board and Minister of Finance.
  - **Crime Severity Index (CSI):** Subsidy given (0.05% per CSI point) if a municipality's three year average is above the rural three year municipal average.
  - **Detachment:** Subsidy of 5% given for municipalities that do not have a detachment in their community.

Invoicing

Each January, starting in 2021, municipalities will receive an invoice stating the amount that the municipality will pay for that fiscal year.

The invoice a municipality receives for their PFM amount is the amount to be paid. Any modifiers to the amount have already been accounted for in the PFM formula.

***Every* municipality will receive an invoice for their police funding model share.**

Reinvestment

The new police funding model will generate revenue that will be reinvested into policing, with a priority on increasing core policing. Funds need to be collected in order to do this.

The RCMP and JSG have a plan to invest in RCMP officers and civilian staff that will:

- support rural detachment enhancement (this is the priority in the first few years of reinvestment);
- expand aerial observation capability;
- undertake methamphetamine and opioid initiatives;
- address auto theft;
- continue to advance the Call Management Initiative;
- enhance General Investigative Services; and
- further support vulnerable persons, missing persons, and homicide investigations.

Enhanced Policing

As part of overall efforts to address police resourcing needs in rural Alberta, all EPP Option 1 agreements in existence last fall were terminated as of April 1, 2020. The Government of Alberta has now absorbed the cost of these ***full-time policing*** positions starting on that date.

As a result of this decision, municipalities that had these EPP Option 1 agreements *retain* the additional resource, but they are *no longer paying for that resource*. They will *not* receive an invoice going forward for EPP Option 1 services after April 1, 2020.

Municipalities still receive the services of the prior EPP Option 1 resource in the same way and purpose as they did prior to the enactment of the *Police Funding Regulation*, at least until such time as the PFM is reviewed.

PFM invoicing is distinct from EPP costs EPP changes do not affect PFM amounts.

This change effects only EPP Option 1 agreements and municipalities *cannot* enter into any new EPP Option 1 agreements. Seasonal and temporary enhanced policing agreements (Option 2 EPPs) are still accommodated.

Police Advisory Board

The establishment of the new Alberta Police Advisory Board will give communities policed by the RCMP a forum to discuss provincial policing priorities.

The advisory board consists of representatives from the Rural Municipalities of Alberta, the Alberta Urban Municipalities Association, and the Alberta Association of Police Governance.

Through this venue, municipalities will be able to provide valued advice in matters related to the provincial police strategic and financial plans and further advocate for the resources their communities need to the leadership at the Ministry and RCMP.

Questions can be directed to the Public Security Division at: jsg.PSDEngagement@gov.ab.ca

Example Calculation Sheet – Police Funding Model

Scenario: If province were to distribute 10% of the costs of frontline policing = $23.25M

BASE MODEL

Muni population x $23.25M x 50% = **Weighted population cost**
Total population

Municipal equalized assessment x $23.25M x 50% = **Weighted equalized assessment cost**
Total equalized assessment

Weighted equalized assessment cost + weighted population cost = TOTAL SHARE POLICING COST

MODIFIERS (Subsidies)

Crime Severity Index (CSI)

Muni CSI 3 year average - Total CSI average = **Muni CSI points above average**

Muni CSI points above average x 0.05% (subsidy per muni CSI point > average) = **CSI % subsidy**

CSI % subsidy x TOTAL SHARE POLICING COST = CSI DOLLAR SUBSIDY

Shadow Population

Muni shadow population = **Shadow pop % subsidy (max 5%)**
Muni population

Shadow pop % subsidy x TOTAL SHARE POLICING COST = SHADOW POPULATION DOLLAR SUBSIDY

Detachment

No detachment in community = **Base Cost x subsidy (5%) =** DETACHMENT DOLLAR SUBSIDY

YEARLY COST TO MUNICIPALITY

= TOTAL SHARE POLICING COST - CSI DOLLAR SUBSIDY - SHADOW POP DOLLAR SUBSIDY - DETACHMENT DOLLAR SUBSIDY

Municipality A: Large specialized municipality

Weighted population cost	$547,595	= 36,072 / 765,780 x 23.25M x 50%
Weighted equalized assessment cost	$1,738,859	= 42,670,899,320 / 285,272,766,093 x 23.25M x 50%
TOTAL SHARE POLICING COST	$2,286,454	= 547,595 + 1,738,859
Muni CSI points above avg	349.96	= 465.21 (muni) – 115.25 (prov)
CSI % subsidy	17.5%	= 349.96 x 0.0005
CSI DOLLAR SUBSIDY	$400,087*	= 17.5% x 2,286,454 (*rounding difference)
Shadow pop % subsidy	4.6%	= 33,119 / 36,072 = 1.001 (max 0.05)
SHADOW POP DOLLAR SUBSIDY	$104,964	= 5% x 2,286,454
NO DETACHMENT SUBSIDY	$0	= 0
YEARLY COST TO MUNICIPALITY	**$1,781,403**	= 2,286,454 - 400,087 - 104,964

Municipality B: Mid-sized municipal district

Weighted population cost	$119,456	= 7,869 / 765,780 x 23.25M x 50%
Weighted equalized assessment cost	$83,317	= 2,044,554,084 / 258,272,776,093 x 23.25M x 50%
TOTAL SHARE POLICING COST	$202,773	= 119,456 + 83,317
Muni CSI points above avg	0	= 76.35 (muni) – 115.25 (prov)
CSI % subsidy	0%	= 0 x 0.0005
CSI DOLLAR SUBSIDY	$0	= 0% x 202,773
Shadow pop % subsidy	0%	= none reported
SHADOW POP DOLLAR SUBSIDY	$0	= 0% x 202,773
NO DETACHMENT SUBSIDY	$0	= 0
YEARLY COST TO MUNICIPALITY	**$202,773**	= 202,773 - 0 - 0

Municipality C: Small summer village

Weighted population cost	$1,108	= 73 / 765,780 x 23.25M x 50%
Weighted equalized assessment cost	$656	= 16,108,372 / 285,272,776,093 x 23.25M x 50%
TOTAL SHARE POLICING COST	$1,765	= 1108 + 656
Muni CSI points above avg	59.30	= 174.55 (muni) – 115.25 (prov)
CSI % subsidy	3%	= 59.30 x 0.0005
CSI DOLLAR SUBSIDY	$52*	= 3% x 1,765 (*rounding difference)
Shadow pop % subsidy	0%	= none reported
SHADOW POP DOLLAR SUBSIDY	$0	= 0% x 1,765
DETACHMENT SUBSIDY	$88	= no detachment = 5% x 1,765
YEARLY COST TO MUNICIPALITY	**$1,625**	= 1,176 - 52 - 88