

COVID-19 Rapid Evidence Profile #18 (4 September 2020)

Question

Which types of non-medical masks are effective in community settings for reducing the spread of COVID-19 for different populations and under different conditions?

What we found

We included documents that examined or could help to understand the effectiveness of using non-medical masks in the community for preventing the spread of COVID-19. Where possible, we distinguish between three types of masks: cloth or home-made masks; medical masks (similar to surgical masks) that are being used in a community (rather than healthcare setting); and other options for masking including plastic face shields.

Organizing framework

- Type of mask
 - Cloth
 - Medical worn in non-medical settings
 - Other
- Effectiveness of masks
 - At preventing spread of droplets (larger than five micro metres)
 - At preventing spread of aerosol (between one and five micro metres)
- For what populations
 - Adults
 - Children
- In which types of community settings
 - Indoors (where social distancing is not possible)
 - Indoors (where social distancing is possible)
 - In transit (e.g., public transit; trains; airplanes)
 - Outdoors
- Under what conditions
 - Length of time wearing the mask
 - Condition of the mask (e.g., damp or torn)
 - In conjunction with other public-health measures
 - Hand washing
 - Physical distancing
 - Disinfecting surfaces and facilities

Box 1: Our approach

We identified evidence addressing the question by searching the guide to COVID-19 evidence sources between the 2nd and 4th of September (www.mcmasterforum.org/find-evidence/guide-to-covid-19-evidence-sources).

We identified experiences by searching jurisdiction-specific sources of evidence on the same website. Jurisdictions were chosen based on having comparable COVID-19 rates per 100,000 in the past seven days.

We searched for guidelines that were developed using a robust process (e.g., GRADE), full systematic reviews (or review-derived products such as overviews of systematic reviews), rapid reviews, protocols for systematic reviews, and titles/questions for systematic reviews or rapid reviews that have been identified as either being conducted or prioritized to be conducted. Single studies were only included if no relevant systematic reviews were identified.

We appraised the methodological quality of full systematic reviews and rapid reviews using AMSTAR. Note that quality appraisal scores for rapid reviews are often lower because of the methodological shortcuts that need to be taken to accommodate compressed timeframes. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems, or to broader social systems.

This rapid evidence response was prepared in three days to inform next steps in evidence synthesis, guideline development and/or decision-making related to the question that was posed.

- Supporting the wearing of masks
 - Adherence to mask-wearing requirements
 - Potential harms of mask wearing and solutions to address them

We identified 14 evidence documents that provide highly relevant evidence in relation to one or more of the above categories:

- two guidelines developed using a robust process (e.g., GRADE);
- four full systematic reviews;
- seven rapid reviews; and
- one guideline developed using some type of evidence synthesis and/or expert opinion.

We summarize below the key findings from these evidence documents, grouped by the part of the framework (or element of the question) being addressed.

Key findings from highly relevant evidence documents about types of masks and their effectiveness

In general, findings from three systematic reviews and five rapid reviews show that there continues to be mixed evidence related to the effectiveness of wearing medical and cloth facemasks in community settings on the spread of COVID-19, though overall most conclude that they appear to have a small protective effect. The lack of conclusive findings stems largely from differences in findings between experimental and modelling studies, which tend to under emphasize the protective role of facemasks, as compared to observational studies, which tend to over emphasize them. Systematic reviews and rapid reviews found that medical masks were more effective in filtering out smaller particles than cloth masks. However, when applied to community settings with other public-health measures in place, the difference was not significant.

Key findings from highly relevant evidence documents about the effectiveness of masks for adults and children

We did not find any evidence documents related to differences in effectiveness between adults and children. However [one guidance document](#) provided principles to guide policy decisions related to the use of masks for children in the community. The guidance indicated that the use of masks should not impede development or learning outcomes, and any requirements for masks should consider the feasibility of implementation within the specific context of each community.

Key findings from highly relevant evidence documents about the conditions under which masks should be worn

With respect to the conditions under which masks should be worn, [one rapid review](#) noted that single-use masks should not be re-used. Similarly, the [review](#) found that damp masks should never be worn and should be immediately changed. [One systematic review](#) and [one guidance document developed using some type of evidence synthesis](#) found that the masks were more effective when used in conjunction with other public-health measures, including physical distancing and hand washing.

Key findings from highly relevant evidence documents about supporting the wearing of masks

For supporting the wearing of masks, two systematic reviews ([one highly relevant](#) and [one of medium relevance](#)) found significant variation to adherence of mask wearing. One of the reviews noted that adherence was significantly higher when required rather than suggested. Reasons for challenges with adherence included: experiences of discomfort, problems with communication, lack

of breathability, and potential stigma related to indicating illness. Suggested solutions to help mitigate these challenges included education on the type and fabric of masks to be used, and clarity on when and how they should be worn. Additional harms related to mask wearing included some reports of headaches and feelings of a false sense of security when wearing a mask, which could potentially lead to a reduction in adherence to other public-health measures. However, there is currently very little evidence related to harms and their potential effects on mask wearing.

Key findings from the jurisdictional scan

We examined experiences with the use of masks in non-healthcare settings in seven countries, namely Australia, Denmark, France, Germany, New Zealand, the United Kingdom, and the United States (with a focus on Maine, Oregon, and Vermont), as well as in all provinces and territories in Canada.

From the countries examined, most require individuals to wear masks in indoor spaces (including while in transit) and outdoors when physical distancing cannot be maintained. The two exceptions to this at national level are Denmark and New Zealand, where there are currently no national requirements to wear masks, with the exception of on public transit in both countries. Three countries, Australia, Germany, and the United States, are taking state or regional approaches to masking requirements. However, Germany has also reached an agreement with 16 states to require masks (or something that covers the mouth and nose) in shops and on public transportation, with a 50-euro fine imposed for non-compliance. One German state (Saxony-Anholt) is the exception to this rule as it did not agree to introduce it given its low number of cases. Exemption for masking requirements include children (with ages varying between 5 and 11) and those with physical or developmental limitations that make wearing a mask difficult. Three countries (Australia, Germany and the U.K.) have implemented fines for not adhering to masking requirements.

In Canada, while all provinces are suggesting that individuals wear non-medical masks when indoors and when physical distancing is not possible, only Quebec, Nova Scotia, Newfoundland and Labrador, have put in place province-wide requirements. The provinces of British Columbia (B.C.), Alberta, Saskatchewan, Manitoba, Ontario, and Prince Edward Island have left the decision up to individual municipalities about whether and how to enforce masking. However, the exception to this in B.C., Alberta, Ontario, P.E.I., and in the Northwest Territories is the requirement of masking for children, teachers and staff at schools, though the grades in which requirements begins vary from junior kindergarten to Grade 7. In B.C., all provincially run transit services also require facemasks to be worn. While none of the three territories are requiring facemasks in all public spaces, the Yukon and Nunavut are requiring that all travellers must wear masks in airport buildings. Nunavut is the only province or territory where there is no requirement for children to wear a mask in school, however children may be asked to put one on should rates of infection change.

Additional details for those who want to know more are in Table 1 (the type and number of all documents that were identified), Table 2 (for experiences from other countries), and Table 3 (for experiences from Canadian provinces and territories). In addition, we provide a detailed summary of our methods in Appendix 1, the full list of included evidence documents (including those deemed of medium and low relevance) in Appendix 2, hyperlinked titles to single studies that could provide additional insights to those provided by other types of evidence documents in Appendix 3, abstracts for highly relevant documents in Appendix 4, and hyperlinks for documents excluded at the final stage of reviewing in Appendix 5.

Table 1: Overview of type and number of documents that were identified*

Type of document	Total	Effectiveness of masks	Under what conditions	Supporting the wearing of masks
Guidelines developed using a robust process (e.g., GRADE)	4	4	4	2
Full systematic reviews	13	6	4	5
Rapid reviews	5	4	4	4
Guidelines developed using some type of evidence synthesis and/or expert opinion	4	2	2	0
Protocols for reviews that are underway	2	2	0	0
Titles/questions for reviews that are being planned	2	2	0	0

*Relevant primary studies have been included in Appendix 3

Table 2. Statements for wearing non-medical masks in other countries

Country	Statements for wearing non-medical masks
Australia	<ul style="list-style-type: none"> • As of 2 August 2020, all residents in Victoria are required to wear a mask or face covering when leaving their homes. Individuals may be exempt from wearing a mask or face covering if they have specific health conditions which restrict them from doing so. <ul style="list-style-type: none"> ○ Individuals can be fined up to \$200 for failure to wear a mask or face covering. ○ All children above the age of 12 are required to wear a face covering, whereas children under 12 are given the option of wearing a face covering. ○ Students over the age of 12 who attend a specialist school are exempt from wearing face coverings. ○ Teachers and childcare staff are not required to wear a mask while teaching or interacting with children. However, they are required to wear masks when not teaching.
Denmark	<ul style="list-style-type: none"> • Currently, there is no national mandate which requires individuals to wear masks, except when travelling via public transport. • The Danish Health Authority recommends that individuals use masks if they are attending large gatherings, have been infected and need to leave their homes, are part of a high-risk group for COVID-19, or live with someone at high risk.
France	<ul style="list-style-type: none"> • As of 20 July 2020, individuals are required to wear masks in all enclosed spaces. This includes shops, banks, libraries, retail and shopping centres, office buildings, community and entertainment centres, places of worship, tourist hubs and public transport. <ul style="list-style-type: none"> ○ All individuals over the age of 11 are required to wear a mask. ○ As of 31 August 2020, all staff and students (if above the age of 11) in nurseries, elementary, middle and high schools are required to wear masks. • As of 1 September 2020, individuals are also required to wear masks in shared spaces in companies and associations. • Individuals may be charged up to 135 euros for failure to wear a mask. Repeat offenders will have higher fines.
Germany	<ul style="list-style-type: none"> • Given increasing numbers of COVID-19 cases, on 27 August 2020 agreements were reached between the Federal Chancellor and heads of the 16 states to require masks, or something that covers the mouth and nose in shops and on public transportation. Those who fail to comply are subject to a 50-euro fine. • The exception to this policy is the state of Saxony-Anhalt, which did not want to introduce the policy given the low number of cases.
New Zealand	<ul style="list-style-type: none"> • As of 30 August 2020, individuals are required to wear a mask on public transport, such as buses, trains, ferries and airplanes. • Outside of public transport, individuals are not mandated to wear a mask, although the Government of New Zealand has assigned alert levels to certain settings to provide public guidance on when and where masks or face coverings are recommended or required for individuals.
U.K.	<ul style="list-style-type: none"> • Individuals residing in England are required to wear non-medical masks or other face coverings in specific indoor spaces. <ul style="list-style-type: none"> ○ Individuals can be charged up to 100 British pounds for failure to wear a face covering where they are mandated. Fines can be doubled for repeat offenders. ○ Children under the age of 11, employees working in indoor settings, and emergency-service workers are not required to wear masks. Individuals are also exempt from wearing masks if they have a specific medical condition which restricts them from doing so or if they are helping someone. • For individuals in Northern Ireland, masks or other face coverings are required on public transport.

Country	Statements for wearing non-medical masks
	<ul style="list-style-type: none"> Individuals in Scotland are required to wear a mask or other face covering in shops, on public transport and public-transportation platforms, as well as in certain indoor public spaces. Emergency-response workers, police officers, and children below the age of five are not required to wear a mask. Similarly, staff working in indoor spaces who have been physically separated from customers and individuals leading a ceremony or act of worship are not required to wear masks. As of 27 July 2020, all individuals in Wales are required to wear masks or other face coverings on public transport.
U.S.	
Maine	<ul style="list-style-type: none"> As of 8 July 2020, an executive order was put in place by the governor requiring face coverings in retail stores with more than 50,000 square feet of shopping space, restaurants, outdoor bars or tasting rooms, and lodging establishments, given their potential to attract tourists and large gatherings. Individual municipalities may enforce the use of face coverings on streets and sidewalks as well as in other public spaces where individuals are not able to maintain physical distancing.
Oregon	<ul style="list-style-type: none"> Masks, face coverings or face shields are currently required statewide for offices and indoor public spaces, as well as in outdoor public spaces when physical distancing of at least six feet is not possible. Children five years of age and older are required to wear a face covering. Individuals with a disability or medical condition can request accommodation from the business if they are unable to wear a mask.
Vermont	<ul style="list-style-type: none"> As of 1 August 2020, facemasks that cover the mouth and nose are required in public spaces at any time it is not possible to keep physical distance of six feet from those not in the same household. Those with a medical or developmental condition, or those that have trouble breathing are exempt from this requirement and do not have to show documentation of the condition to be provided with the exemption.

Table 3. Statements for wearing non-medical masks in Canadian provinces and territories

Province/territory	Statements for wearing non-medical masks
British Columbia	<ul style="list-style-type: none"> The Government of British Columbia does not have provincial requirements for facemasks, although businesses may require individuals to wear face coverings for service. Students and staff in middle and secondary schools are required to wear masks in common school spaces. Several post-secondary schools, such as Simon Fraser University, also have restrictions in place which require students to wear masks. As of 24 August 2020, BC Transit requires all passengers to wear masks, unless they are below the age of five or have a specific medical condition which does not allow for them to do so.
Alberta	<ul style="list-style-type: none"> The Government of Alberta encourages residents to wear non-medical masks in any public space where physical distancing is not feasible, although there is no provincial mandate requiring residents to wear masks. <ul style="list-style-type: none"> Non-medical masks are additionally required for all students in Grades 4 to 12, as well as any school staff members, under the school re-entry plan. As of 1 August 2020, the City of Edmonton requires all residents to wear a non-medical mask or face covering in all indoor public spaces.

	<ul style="list-style-type: none"> ○ This includes retail stores, entertainment venues, recreation centres, transit stations, religious spaces, hotels, public transportation, taxis and vehicles. ● The City of Calgary additionally requires residents to wear face coverings in all indoor public spaces, with the exception of individuals below the age of two and those with specific health conditions. <ul style="list-style-type: none"> ○ Residents of Calgary may be given a fine of \$50 for not wearing a face covering in spaces where they are mandatory. ○ All businesses are required to display posters and signs about mandatory face coverings. Businesses can face fines up to \$200 for failing to display signs and posters. ● The City of Banff requires individuals to wear masks in all public spaces, including any outdoor spaces included under Banff's pedestrian zone. <ul style="list-style-type: none"> ○ Individuals can face a fine of \$150 for failure to wear a mask. ○ Businesses are also required to display signage regarding the required mask bylaw. ● Jasper, St. Albert, Lethbridge, Canmore, and other municipalities across Alberta have also mandated wearing masks.
Saskatchewan	<ul style="list-style-type: none"> ● Individuals are encouraged to wear non-medical masks, as per recommendations made by the Public Health Agency of Canada, although there is no provincial mandate requiring residents to wear masks. <ul style="list-style-type: none"> ○ Schools are given jurisdiction in deciding whether to mandate masks. ● Certain school districts, such as Regina Public Schools, Regina Catholic Schools, Saskatoon Public Schools (among other districts), have mandated students in Grades 4 to 12 and school staff to wear masks, specifically when physical distancing is not possible. ● In August 2020, the University of Saskatchewan announced that students will be required to wear masks in all shared spaces on campus, unless exempt due to specific medical or health needs. ● As of 1 September 2020, the University of Regina also requires masks or face coverings in all common, indoor spaces on campus.
Manitoba	<ul style="list-style-type: none"> ● While masks are not required in all regions of Manitoba, the province requires masks and face coverings for the Prairie Mountain Health region in indoor public spaces, as well as certain outdoor public settings. ● The Province of Manitoba requires non-medical masks for all students in Grades 4 to 12, as well as for staff, visitors, and parents. Individuals with specific medical conditions may be exempt from wearing non-medical masks. ● As of August 2020, Winnipeg Transit announced mandatory masks and face coverings for all travellers, including transit staff. Individuals can be charged up to \$100 for failure to wear a mask or face covering. ● The University of Manitoba and University of Winnipeg have also required masks for students, staff and visitors in all shared spaces on campus.
Ontario	<ul style="list-style-type: none"> ● The Province of Ontario does not have a provincial mandate requiring residents to wear masks, although they are recommended. <ul style="list-style-type: none"> ○ For the 2020-2021 school year, the Province of Ontario has mandated students in Grades 4 to 12 and school staff to wear masks indoors. ○ Students in kindergarten to Grade 3 are encouraged to wear a mask. ● As of 7 July 2020, the City of Toronto requires all individuals to wear a mask or a face covering in indoor public spaces, except for those below the age of two or those with specific medical conditions. ● Businesses are required to develop a mask policy for their establishment and to communicate this with their team and customers. Owners of apartment and condominium buildings are also required to develop policies for their properties and to communicate this with tenants.

	<ul style="list-style-type: none"> • Simcoe County, Durham, Wellington-Dufferin-Guelph, York, Brampton and other municipalities have also mandated masks and face coverings for residents.
Quebec	<ul style="list-style-type: none"> • The government of Quebec states that: <ul style="list-style-type: none"> ○ wearing a non-medical mask or face covering is mandatory on public transit for people age 10 and over (including on buses, subways, ferries, taxis, car services, etc.); ○ wearing a mask or face covering that covers the nose and mouth is mandatory in enclosed or partially enclosed public places for people age 10 and over; ○ children under 10 years of age, people whose particular medical condition prevents them from wearing a mask and people who are unable to put on or take off a mask by themselves do not have to wear a face covering; and ○ wearing a mask or face covering is recommended for children between two and nine years of age, but not recommended for those under age two.
New Brunswick	<ul style="list-style-type: none"> • The Government of New Brunswick requires non-medical masks to be worn in community spaces where physical distancing is not possible for individuals. This includes grocery stores, pharmacies and other community spaces. Individuals are exempt from this requirement if they are less than two years of age or have other medical needs. • As of September 2020, students in Grades 6 to 12 are required to wear a mask when travelling on the school bus and in common spaces. However, masks are not required in the classroom. <ul style="list-style-type: none"> ○ Students in kindergarten to grade 5 are not required to wear masks, although they are encouraged. ○ Teachers in Grades 9 to 12 are required to wear a mask when physical distancing is not possible. For teachers in kindergarten to Grade 8, facemasks and coverings remain optional.
Nova Scotia	<ul style="list-style-type: none"> • As of 31 July 2020, The Government of Nova Scotia requires individuals to wear non-medical masks in certain indoor public spaces. This includes retail stores, shopping centres, esthetician services, food stores, places of religious gathering, entertainment centres, common spaces on university and college campuses, and public transport vehicles, including airplanes. • All students in Grades 4 to 12 are required to wear a non-medical mask while in school, except when seated at their desk two metres apart from others.
Prince Edward Island	<ul style="list-style-type: none"> • The Government of Prince Edward Island recommends that individuals wear a face covering or a non-medical mask, although they are not mandatory. • Students from kindergarten to Grade 12 and bus drivers are required to wear non-medical masks when travelling on the school bus. <ul style="list-style-type: none"> ○ Students in Grades 7 to 12 and staff are also required to wear masks in school. Students in kindergarten to Grade 6 are encouraged to wear masks, although this is not mandatory. ○ School staff in Grades 7 to 12 are required to wear masks between classes, during emergencies and when physical distancing is not possible.
Newfoundland and Labrador	<ul style="list-style-type: none"> • As of 24 August 2020, the Government of Newfoundland and Labrador requires all individuals above the age of five to wear non-medical masks in public indoor spaces. This includes public transit, retail stores, office spaces, places of religious gatherings, funeral homes, entertainment spaces, sports and recreation facilities, and restaurants. <ul style="list-style-type: none"> ○ Non-medical masks are also required in post-secondary settings and for grade-school students who ride the school bus. ○ All high-school and junior high-school parents are required to wear masks in common spaces.
Yukon	<ul style="list-style-type: none"> • The Government of Yukon requires individuals to wear masks in all airport buildings, although masks are not required for other areas of Yukon. <ul style="list-style-type: none"> ○ Businesses are given the jurisdiction to decide whether they require customers to wear masks and face coverings.

	<ul style="list-style-type: none"> ○ Staff and students above the age of 10 in schools are encouraged to wear masks in schools when physical distancing is not possible.
Northwest Territories	<ul style="list-style-type: none"> ● The Government of Northwest Territories does not require masks except in healthcare facilities or if an individual is ill. ● Students from junior kindergarten to Grade 12 are required to wear masks in schools when physical distancing cannot be practised and on buses. School staff are required to wear face shields.
Nunavut	<ul style="list-style-type: none"> ● In April 2020, the Government of Nunavut announced that all travellers must wear non-medical masks during air travel. Individuals without facemasks will not be permitted to travel. ● The Government of Nunavut does not recommend masks for children, but students in school may be asked to wear masks in certain circumstances. School staff are also given the option of wearing a mask if physical distancing cannot be practised.

Waddell K, Wilson MG, Gauvin FP, Moat KA, Wang Q, Ahmad A, Bhuiya A. COVID-19 rapid evidence profile #18: Which types of non-medical masks are effective in community settings for reducing the spread of COVID-19 for different populations and under different conditions? Hamilton: McMaster Health Forum, 4 September 2020.

The McMaster Health Forum is one of the three co-leads of RISE, which is supported by a grant from the Ontario Ministry of Health to the McMaster Health Forum. To help Ontario Health Team partners and other health- and social-system leaders as they respond to unprecedented challenges related to the COVID-19 pandemic, the Forum is preparing rapid evidence responses like this one. The opinions, results, and conclusions are those of the McMaster Health Forum and are independent of the ministry. No endorsement by the ministry is intended or should be inferred.



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Appendix 1: Methodological details

We use a standard protocol for preparing each rapid evidence profile (REP) to ensure that our approach to identifying research evidence as well as experiences from other countries and from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For each REP, we search our continually updated [guide to key COVID-19 evidence sources](#) for:

- 1) guidelines developed using a robust process (e.g., GRADE);
- 2) full systematic reviews;
- 3) rapid reviews;
- 4) guidelines developed using some type of evidence synthesis and/or expert opinion;
- 5) protocols for reviews or rapid reviews that are underway;
- 6) titles/questions for reviews that are being planned; and
- 7) single studies (when no guidelines, systematic reviews or rapid reviews are identified).

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French and Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing.

Identifying experiences from other countries and from Canadian provinces and territories

For each rapid evidence profile we collectively decide on what countries to examine based on the question posed. For other countries we search relevant sources included in our continually updated guide to key COVID-19 evidence sources. These sources include government-response trackers that document national responses to the pandemic. In addition, we conduct searches of relevant government and ministry websites. In Canada, we search websites from relevant federal and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language, where information is not available through the government-response trackers, we are unable to extract information about countries that do not use English, Chinese, French or Spanish as an official language.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question and to COVID-19. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher out of a possible 11, medium-quality reviews are those with scores between four and seven, and low-quality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses to COVID-19. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare declarative headings that provide a brief summary of the key findings and act as the text in the hyperlink. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. We then draft a brief summary that highlights the total number of different types of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2: Evidence documents that address the question, organized by document type and sorted by relevance to the question and COVID-19

Type of document	Relevance to question	Focus	Recency or status
Guidelines developed using a robust process (e.g., GRADE)	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) • For what populations <ul style="list-style-type: none"> ○ Adults ○ Children • In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is possible) ○ In transit (e.g., public transit; trains; airplanes) • Under what conditions <ul style="list-style-type: none"> ○ Condition of the mask (e.g., damp or torn) ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities • Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> • There is currently no uniformity in design, material, layering, or shape among available versions of non-medical masks, but the WHO recommends a minimum of three layers, with the following combination: “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) which may limit external contamination from penetration through to the wearer’s nose and mouth; 3) a middle hydrophobic layer of synthetic non-woven material such as polypropylene or a cotton layer which may enhance filtration or retain droplets.” • Decision-makers should apply a risk-based approach focusing on the following criteria when considering or encouraging the use of masks for the general public: purpose of the mask, risk of exposure to COVID-19, vulnerability of the mask wearer/population; setting; feasibility; and type of mask. • The guidelines provide details on non-medical mask filtration efficiency, pressure drop, and filter quality factor for 11 types of material. • In general, the use of fabric masks by the general public is advised where there is widespread community transmission and physical distancing of at least one metre cannot be maintained. <p>Source (WHO technical guidance)</p>	Last updated 5 June 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Other 	<ul style="list-style-type: none"> • Given the limited evidence on the use of masks in children for COVID-19, including limited evidence about transmission of COVID-19 in children, the 	Last updated 21 August 2020

	<ul style="list-style-type: none"> ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ● For what populations <ul style="list-style-type: none"> ○ Children ● In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Potential harms of mask wearing and solutions to address them 	<p>following principles should guide policies about the use of masks for children in the community: 1) do no harm (meaning that the best interest, health and well-being of the child should be prioritized); 2) the guidance should not have a negative impact on development and learning outcomes; and 3) the guidance should consider the feasibility of implementing recommendations in different social, cultural and geographic contexts.</p> <p>Source (WHO technical guidance)</p>	
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ● For what populations <ul style="list-style-type: none"> ○ Adult ● In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities 	<ul style="list-style-type: none"> ● Crew members of cargo ships and fishing vessels should consider using a fabric mask while on board conveyances and in crowded places where physical distancing is not possible. <p>Source (WHO technical guidance)</p>	<p>Last updated 25 August 2020</p>
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ● Effectiveness of masks 	<ul style="list-style-type: none"> ● Employees of the accommodation sector whose work involves close contact with others, such as in restaurants, breakfast and dining rooms and bars, should wear fabric masks. 	<p>Last updated 25 August 2020</p>

	<ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ● For what populations <ul style="list-style-type: none"> ○ Adult ● In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities 	<p>Source (WHO technical guidance)</p>	
Full systematic reviews	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ○ Other ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing 	<ul style="list-style-type: none"> ● In the community, masks appeared to be effective when worn by well individuals with and without the addition of hand hygiene practices, however the combination was more effective. ● Community masking was found to be particularly useful in reducing the spread of COVID-19 among pre-symptomatic individuals. ● Cloth masks still allow for some airborne particles (particularly aerosols) to be spread. <p>Source (AMSTAR rating 4/9)</p>	Literature last searched 17 April 2020
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings 	<ul style="list-style-type: none"> ● Facemask use could result in a large reduction in the risk of infection, with strong association of risk protection for N95 as compared to disposable surgical masks. <p>Source (AMSTAR rating 9/11)</p>	Literature last searched 3 May 2020
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ● In which types of community settings 	<ul style="list-style-type: none"> ● Wearing a facemask in the community was found to have some protective effect against primary infection and is more effective when both the infected and uninfected members wear it. ● However, the evidence was not found to be sufficiently strong to support the widespread use of 	Published 6 April 2020

<ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ In transit (e.g., public transit; trains, airplanes) 	<p>facemasks in all contexts, but should be prioritized for those that are particularly vulnerable, or when in transient high-risk situations.</p> <p>Source (AMSTAR rating 7/11)</p>	
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ○ Other ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> ● Adherence to wearing facemasks when required was about 47% higher than when not required. ● Adherence to wearing facemasks was found to be higher for those wearing surgical or medical masks as opposed to N95 masks. ● More research is needed to identify barriers to wearing facemasks as well as potential downsides and how they may be mitigated. <p>Source (AMSTAR rating 7/11)</p>	<p>Literature last searched 18 May 2020</p>
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> ● Physical interventions such as masks are effective to interrupt or reduce the spread of respiratory viruses during epidemics and pandemics. ● However, this should be moderated based on transmission rates and fatality rates. <p>Source</p>	<p>Literature last searched November 2011</p>
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ○ Other ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> ● No studies were found examining the effectiveness of facemask use in limiting the spread of COVID-19. <p>Source</p>	<p>Literature last searched February 2020</p>
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ○ Other ● Effectiveness of masks ● Under what conditions 	<ul style="list-style-type: none"> ● No significant reduction was found for influenza transmission with the use of facemasks. ● There is limited evidence for the effectiveness in preventing influenza-like virus transmission when wearing a surgical mask either when worn by the infected person for source control or when worn by uninfected people to reduce exposure. 	<p>Literature published May 2020</p>

<ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> ● It is more likely that cloth masks get used in lower-income settings as compared to disposable medical masks due to cost and availability. ● Ensuring proper use and disposal of facemasks along with good hand hygiene is essential, which can be supported with education to ensure effective transmission prevention. <p>Source</p>	
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings ● For what populations <ul style="list-style-type: none"> ○ Adults ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Physical distancing ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> ● Nine randomized controlled trials comparing the use of masks to no masks in non-pandemic settings were included, of which seven included people living in the community. ● Insufficient evidence was identified to provide a recommendation on the use of facial barriers without other measures, and there was also insufficient evidence to determine whether there is a difference between surgical masks and N95 masks. ● Harms were poorly reported in the included studies and were limited to discomfort leading to lower compliance. ● It is recommended that the use of masks is combined with other preventive measures. <p>Source</p>	Literature last searched 1 April 2020 (pre-print, not peer reviewed)
<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) ● For what populations <ul style="list-style-type: none"> ○ Adults ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing 	<ul style="list-style-type: none"> ● Evidence was not strong enough to recommend universal wearing of masks, but they were found to be slightly protective against infection from casual community contact, modestly effective against household infections when both infected and non-infected people wear them, and useful for high-risk individuals in transient situations. <p>Source</p>	Literature last searched 3 March 2020

	<ul style="list-style-type: none"> ▪ Physical distancing ▪ Disinfecting surfaces and facilities 		
	<ul style="list-style-type: none"> • Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements 	<ul style="list-style-type: none"> • Public perceptions of some prevention approaches (e.g., hand hygiene and mask wearing) were viewed as familiar and socially responsible, but others (e.g., isolation and physical distancing) were viewed with ambivalence in some contexts (e.g., because of perceived adverse impacts and social stigma). • Common public perceptions of barriers to prevention approaches included “beliefs about infection transmission, personal vulnerability to respiratory infection and concerns about self-diagnosis in emerging respiratory infections.” • Increasing uptake will require addressing select barriers including perceived physical discomfort of wearing a mask, and concerns about attracting attention and being seen as indicating illness to others. <p>Source</p>	Literature last searched February 2013
	<ul style="list-style-type: none"> • Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements 	<ul style="list-style-type: none"> • Facemasks are beneficial against certain respiratory infections at mass gatherings, but their specific effect related to preventing COVID-19 transmission remains unproven. • The overall uptake of facemasks at mass gatherings ranged from 0.02% to 92.8%, with an average of 50%. <p>Source</p>	Literature last search 8 February 2020
	<ul style="list-style-type: none"> • Type of non-medical mask <ul style="list-style-type: none"> ○ Other 	<ul style="list-style-type: none"> • Studies did not find a reduction in the occurrence of influenza-like illness with the use of a triple-layer facemask alone in community settings. <p>Source</p>	Literature last searched 25 April 2020
Rapid reviews	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • Supporting the wearing of masks <ul style="list-style-type: none"> ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> • There is evidence of a small protective effect of medical-facemask use in the community. • There is no reliable evidence of the effectiveness of non-medical facemasks in community settings. • Harms from facemask use include risks of incorrect use, a false sense of security, mask contamination, 	Literature last searched 13 May 2020

		as well as some people reporting experiences of discomfort and problems with communication. Source (AMSTAR rating 4/9)	
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical setting • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) • For what populations <ul style="list-style-type: none"> ○ Adults • In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ Indoors (where social distancing is possible) ○ Outdoors • Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing • Disinfecting surfaces and facilities 	<ul style="list-style-type: none"> • Limited evidence with low certainty from observational studies conducted during the COVID-19 pandemic, and from studies conducted during other pandemics and for other respiratory virus, indicate that facemasks in community settings may reduce the risk of COVID-19 transmission. Source (AMSTAR rating 5/10) 	Literature last searched 24 June 2020
	<ul style="list-style-type: none"> • Type of non-medical mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings 	<ul style="list-style-type: none"> • Evidence supports the transmission of COVID-19 from asymptomatic people. • Systematic wearing of masks in public spaces to reduce the transmission of COVID-19 has been found to have a non-significant reduction in respiratory infections. • The efficacy of other masks, including cloth masks has not been established. Source (AMSTAR rating 4/11) 	Literature last searched 12 May 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • Effectiveness of masks 	<ul style="list-style-type: none"> • Medical masks have not been found to have a demonstrated effect on reducing acute respiratory infections, however observational and case studies find they are helpful in reducing transmission in the 	Literature last searched 19 June 2020

	<ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ● In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ Indoors (where social distancing is possible) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements 	<p>context of mass gatherings and where social distancing is not possible.</p> <ul style="list-style-type: none"> ● Medical masks should be prioritized for those with symptoms suggestive of COVID-19, while others can wear a well-constructed non-medical mask as a form of protection. ● In settings where social distancing cannot be maintained, medical masks or non-medical masks should be encouraged as a form of protection. ● Health officials should consider providing instruction about mask construction and mask etiquette as well as to enforce the dual implementation of masks alongside other public-health measures. <p>Source (AMSTAR rating 4/9)</p>	
	<ul style="list-style-type: none"> ● Effectiveness of non-medical settings <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) ● In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ Indoors (where social distancing is possible) ○ In transit (e.g., public transit; trains; airplanes) ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing 	<ul style="list-style-type: none"> ● There is evidence of contact and droplet transmission of COVID-19, however the evidence related to aerosol-based transmission is not well established. ● The adoption of mandatory facemask use has been associated with decreasing infection rates, though these decreases have not been directly attributed to facemasks as other measures are often in place. ● There is little evidence on the use of facemasks for COVID-19 specifically, though given the primary mode of transmission is contact and droplets it is prudent to encourage facemasks in settings with community transmission. <p>Source (AMSTAR rating 3/9)</p>	<p>Published 20 July 2020</p>
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ● For what populations <ul style="list-style-type: none"> ○ Adults ● In which types of community settings 	<ul style="list-style-type: none"> ● Several best-practice recommendations were derived on graded evidence, and the highest-rated recommendation (grade A) was that a multifaceted approach that includes the use of masks during high-risk exposure combined with evidence-based hand-hygiene techniques should be used to prevent 	<p>Literature last searched 3 March 2020</p>

	<ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ Indoors (where social distancing is possible) ○ In transit (e.g., public transit; trains; airplanes) ○ Outdoors ● Under what conditions <ul style="list-style-type: none"> ○ Length of time wearing the mask ○ Condition of the mask (e.g., damp or torn) ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements ○ Potential harms of mask wearing and solutions to address them 	<p>the transmission of respiratory infection in the community.</p> <ul style="list-style-type: none"> ● In addition: the use of masks by uninfected people in the community was not recommended; masks should be worn by people at high risk of exposure; masks should be changed right away if they are damp; single-use masks should never be re-used and be discarded immediately; masks should cover the mouth and nose, be tied securely in order to minimize gaps, and not be touched while wearing or removing (they should be cleaned immediately if this happens); and cloth masks are not recommended in low-risk community settings. <p>Source (0/11 AMSTAR rating)</p>	
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ● For what populations <ul style="list-style-type: none"> ○ Adults ● Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities ● Supporting the wearing of masks <ul style="list-style-type: none"> ○ Adherence to mask-wearing requirements ○ Potential harms of mask wearing and solutions to address them 	<ul style="list-style-type: none"> ● Cloth face coverings are effective in reducing source virus transmission when they are fitted correctly. ● Masks cannot be used in isolation but need to be part of a policy package also including hand hygiene and physical distancing. ● Consistent public messaging is critical to public adherence of wearing facemasks in public. <p>Source (3/9 AMSTAR rating)</p>	
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings ○ Other 	<ul style="list-style-type: none"> ● Risk for infection was found to decrease with mask use as compared to non-mask use, however little differences were found between community use of N95 as compared to surgical masks. <p>Source</p>	<p>Literature last searched 2 June 2020</p>

	<ul style="list-style-type: none"> • Type of non-medical mask <ul style="list-style-type: none"> ○ Medical worn in non-medical settings • For what populations <ul style="list-style-type: none"> ○ Adults 	<ul style="list-style-type: none"> • Based on 21 included documents, including six systematic reviews, the scientific evidence was found to be inconclusive about whether to recommend the use of surgical masks at a population level. <p>Source</p>	Literature last searched 1 April 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) • For what populations <ul style="list-style-type: none"> ○ Adults 	<ul style="list-style-type: none"> • There is no evidence that cloth masks in the community setting prevent viral respiratory illness, and there is some “low certainty evidence” that there is a 1.6-times increase in incidence of influenza-like illness for cloth masks as compared to medical masks. <p>Source</p>	Literature last searched 31 March 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Other • In which types of community settings <ul style="list-style-type: none"> ○ Outdoors 	<ul style="list-style-type: none"> • No literature that compared the clinical effectiveness of face shields made from different materials was identified. • No evidence-based guidelines for the use of face shields in outdoor winter settings were identified. <p>Source</p>	Literature last searched 28 July 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Other • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> • No evidence exists regarding the effectiveness of face shields in pre-hospital settings. <p>Source</p>	Literature last searched 28 July 2020
Guidance developed using some type of evidence synthesis and/or expert opinion	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • In which types of community settings <ul style="list-style-type: none"> ○ Indoors (where social distancing is not possible) ○ In transit (e.g., public transit; trains; airplanes) 	<ul style="list-style-type: none"> • Masks worn in public are advisable given that it may provide some protection. • No randomized controlled trials were found that evaluated the use of cloth masks among the general public. <p>Source (BMJ)</p>	Published 9 April 2020

	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • For what populations <ul style="list-style-type: none"> ○ Adults ○ Children • Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities 	<ul style="list-style-type: none"> • As source control and in conjunction with other public-health measures, the general public is advised to wear a mask with two or more layers of washable, breathable fabric, and avoid masks with unbreathable material and exhalation valves (gaiters and face shields are under evaluation). • Children under two years old should not wear a mask. Source (U.S. CDC) 	Last updated 27 August 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> • There is limited evidence on the effectiveness of cloth masks worn by the general public. Source 	Published April 2020
	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings • Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) • Under what conditions <ul style="list-style-type: none"> ○ In conjunction with other public-health measures <ul style="list-style-type: none"> ▪ Hand washing ▪ Physical distancing ▪ Disinfecting surfaces and facilities 	<ul style="list-style-type: none"> • Non-medical masks may be used as a source control (based on limited indirect evidence). • Masks (including non-medical masks) are advised in conjunction with other public-health measures such as physical distancing, hand washing, and other forms of etiquette. Source 	Published 8 April 2020
Protocols for reviews that are underway	<ul style="list-style-type: none"> • Type of mask <ul style="list-style-type: none"> ○ Cloth • Effectiveness of masks 	<ul style="list-style-type: none"> • Evaluating the protective effect of home-made or cloth facemask against viral respiratory illness Source 	Anticipated completion

	<ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 		date 31 May 2020
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> ● The effectiveness of wearing facemasks in the community for reducing the spread of COVID-19 Source 	Anticipated completion date 08 May 2020
Titles/questions for reviews that are being planned	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Medical worn in non-medical settings ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> ● What is the evidence on facemask use to prevent COVID-19 in community settings? Source 	Under review
	<ul style="list-style-type: none"> ● Type of mask <ul style="list-style-type: none"> ○ Cloth ○ Other ● Effectiveness of masks <ul style="list-style-type: none"> ○ At preventing spread of droplets (larger than five micro metres) ○ At preventing spread of aerosol (between one and five micro metres) 	<ul style="list-style-type: none"> ● What forms of non-standard PPE are there (e.g., home-made masks) and what is the evidence of their efficacy? Source 	Under review
Single studies in areas where no reviews were identified		Given the number of evidence documents that include a synthesis of existing single studies, we have included relevant single studies in Appendix 3.	

Appendix 3. Primary studies relevant to the efficacy of non-medical masks

Title of primary study
Widespread use of facemasks in public may slow the spread of SARS CoV-2: An ecological study
A modelling framework to assess the likely effectiveness of facemasks in combination with 'lock-down' in managing the COVID-19 pandemic
Absence of apparent transmission of SARS-CoV-2 from two stylists after exposure at a hair salon with a universal face covering policy - Springfield, Missouri, May 2020
Associations of stay-at-home order and face-masking recommendation with trends in daily new cases and deaths of laboratory-confirmed COVID-19 in the United States
Bidirectional impact of imperfect mask use on reproduction number of COVID-19: A next generation matrix approach
COVID-19 and non-traditional mask use: How do various materials compare in reducing the infection risk for mask wearers?
Community use of facemasks and COVID-19: Evidence from a natural experiment of state mandates in the US
Could masks curtail the post-lockdown resurgence of COVID-19 in the US?
Effectiveness of surgical and cotton masks in blocking SARS-CoV-2: A controlled comparison in 4 patients
Facemask use in the general population and optimal resource allocation during the COVID-19 pandemic
Impact of self-imposed prevention measures and short-term government-imposed social distancing on mitigating and delaying a COVID-19 epidemic: A modelling study
Mask or no mask for COVID-19: A public health and market study
Mask wearing in pre-symptomatic patients prevents SARS-CoV-2 transmission: An epidemiological analysis
To mask or not to mask: Modeling the potential for facemask use by the general public to curtail the COVID-19 pandemic
Hand hygiene, mask-wearing behaviors and its associated factors during the COVID-19 epidemic: A cross-sectional study among primary school students in Wuhan, China
Epidemiology reveals mask wearing by the public is crucial for COVID-19 control
Understanding facemask use to prevent coronavirus and other illnesses: Development of a multidimensional facemask perceptions scale
The role of community-wide wearing of facemasks for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2
The psychology of wearing facemasks in times of the COVID-19 pandemic
Modeling the effects of intervention strategies on COVID-19 transmission dynamics

Appendix 4. Abstracts for highly relevant documents

Note that the table below only includes the abstracts for the documents that we identified on page 1 as being highly relevant to the question.

Type of document	Abstract and link to full text
Guidelines developed using a robust process (e.g., GRADE)	<p data-bbox="449 396 940 423">Advice on the use of masks for COVID-19</p> <p data-bbox="449 461 554 488">Abstract</p> <p data-bbox="449 493 2007 618">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. This updated version includes a section on Advice to decision makers on the use of masks for healthy people in community settings.</p> <p data-bbox="449 623 1444 651">Advice on the use of masks for children in the community in the context of COVID-19</p> <p data-bbox="449 656 2007 748">This guidance provides specific considerations for the use of non-medical masks, also known as fabric masks, by children as a means for source control in the context of the current COVID-19 pandemic. It also advises on the use of medical masks for children under certain conditions.</p>
Full systematic reviews	<p data-bbox="449 758 1990 818">A rapid systematic review of the efficacy of facemasks and respirators against coronavirus and other respiratory transmissible viruses for the community, healthcare workers and sick patients</p> <p data-bbox="449 855 554 883">Abstract</p> <p data-bbox="449 888 2007 1052">Background: The pandemic of COVID-19 is growing, and a shortage of masks and respirators has been reported globally. Policies of health organizations for healthcare workers are inconsistent, with a change in policy in the US for universal facemask use. The aim of this study was to review the evidence around the efficacy of masks and respirators for healthcare workers, sick patients and the general public. Methods: A systematic review of randomized controlled clinical trials on use of respiratory protection by healthcare workers, sick patients and community members was conducted. Articles were searched on Medline and Embase using key search terms.</p> <p data-bbox="449 1057 2007 1386">Results: A total of 19 randomised controlled trials were included in this study – 8 in community settings, 6 in healthcare settings and 5 as source control. Most of these randomised controlled trials used different interventions and outcome measures. In the community, masks appeared to be effective with and without hand hygiene, and both together are more protective. Randomised controlled trials in health care workers showed that respirators, if worn continually during a shift, were effective but not if worn intermittently. Medical masks were not effective, and cloth masks even less effective. When used by sick patients randomised controlled trials suggested protection of well contacts. Conclusion: The study suggests that community mask use by well people could be beneficial, particularly for COVID-19, where transmission may be pre-symptomatic. The studies of masks as source control also suggest a benefit, and may be important during the COVID-19 pandemic in universal community facemask use as well as in health care settings. Trials in healthcare workers support the use of respirators continuously during a shift. This may prevent health worker infections and deaths from COVID-19, as aerosolisation in the hospital setting has been documented.</p>
	<p data-bbox="449 1395 1902 1455">Physical distancing, facemasks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis</p>

	<p>Abstract</p> <p>Background: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes COVID-19 and is spread person-to-person through close contact. We aimed to investigate the effects of physical distance, facemasks, and eye protection on virus transmission in health-care and non-health-care (eg, community) settings. Methods: We did a systematic review and meta-analysis to investigate the optimum distance for avoiding person-to-person virus transmission and to assess the use of facemasks and eye protection to prevent transmission of viruses. We obtained data for SARS-CoV-2 and the betacoronaviruses that cause severe acute respiratory syndrome, and Middle East respiratory syndrome from 21 standard WHO-specific and COVID-19-specific sources. We searched these data sources from database inception to May 3, 2020, with no restriction by language, for comparative studies and for contextual factors of acceptability, feasibility, resource use, and equity. We screened records, extracted data, and assessed risk of bias in duplicate. We did frequentist and Bayesian meta-analyses and random-effects meta-regressions. We rated the certainty of evidence according to Cochrane methods and the GRADE approach. This study is registered with PROSPERO, CRD42020177047. Findings: Our search identified 172 observational studies across 16 countries and six continents, with no randomised controlled trials and 44 relevant comparative studies in health-care and non-health-care settings (n=25 697 patients). Transmission of viruses was lower with physical distancing of 1 m or more, compared with a distance of less than 1 m (n=10 736, pooled adjusted odds ratio [aOR] 0·18, 95% CI 0·09 to 0·38; risk difference [RD] -10·2%, 95% CI -11·5 to -7·5; moderate certainty); protection was increased as distance was lengthened (change in relative risk [RR] 2·02 per m; $p_{\text{interaction}}=0·041$; moderate certainty). Facemask use could result in a large reduction in risk of infection (n=2647; aOR 0·15, 95% CI 0·07 to 0·34, RD -14·3%, -15·9 to -10·7; low certainty), with stronger associations with N95 or similar respirators compared with disposable surgical masks or similar (eg, reusable 12–16-layer cotton masks; $p_{\text{interaction}}=0·090$; posterior probability >95%, low certainty). Eye protection also was associated with less infection (n=3713; aOR 0·22, 95% CI 0·12 to 0·39, RD -10·6%, 95% CI -12·5 to -7·7; low certainty). Unadjusted studies and subgroup and sensitivity analyses showed similar findings. Interpretation: The findings of this systematic review and meta-analysis support physical distancing of 1 m or more and provide quantitative estimates for models and contact tracing to inform policy. Optimum use of facemasks, respirators, and eye protection in public and health-care settings should be informed by these findings and contextual factors. Robust randomised trials are needed to better inform the evidence for these interventions, but this systematic appraisal of currently best available evidence might inform interim guidance.</p>
	<p>Downsides of facemasks and possible mitigation strategies: A systematic and meta-analysis</p> <p>Abstract</p> <p>Objective: To identify, appraise, and synthesise studies evaluating the downsides of wearing facemasks in any setting. We also discuss potential strategies to mitigate these downsides. Methods: PubMed, Embase, CENTRAL, EuropePMC were searched (inception-18/5/2020), and clinical registries were searched via CENTRAL. We also did forward-backward citation search of the included studies. We included randomised controlled trials and observational studies comparing facemask use to any active intervention or to control. Two author pairs independently screened articles for inclusion, extracted data and assessed the quality of included studies. The primary outcomes were compliance, discomforts, harms, and adverse events of wearing facemasks. Findings: We screened 5471 articles, including 37 (40 references); 11 were meta-analysed. For mask wear adherence, 47% more people wore facemasks in the facemask group compared to control; adherence was significantly higher (26%) in the surgical/medical mask group than in N95/P2 group. The largest number of studies reported on the discomfort and irritation outcome (20 studies); fewest reported on the misuse of masks, and none reported on mask contamination or risk compensation behaviour. Risk of bias was generally high for blinding of participants and personnel and low</p>

	<p>for attrition and reporting biases. Conclusion: There are insufficient data to quantify all of the adverse effects that might reduce the acceptability, adherence, and effectiveness of facemasks. New research on facemasks should assess and report the harms and downsides. Urgent research is also needed on methods and designs to mitigate the downsides of facemask wearing, particularly the assessment of alternatives such as face shields.</p>
Rapid review	<p>Evidence summary for facemask use by healthy people in the community</p> <p>Abstract</p> <ul style="list-style-type: none"> • Facemasks aim to reduce the spread of infection by acting as a source control to stop the spread of infection by the person wearing the mask (including those who do not know they are infected) or to protect the wearer from droplet splashes or inhaling airborne contaminants including small (aerosol) and large particle droplets. Mask grades include respirators (classified as PPE designed to also protect against aerosols), medical facemasks and non-medical facemasks. • Since the start of the current COVID-19 pandemic, the use of facemasks by persons going out in public has been recommended by an increasing number of countries. In Ireland, cloth face coverings are recommended in situations where physical distancing may not be possible, and are mandatory on public transport and in shops and other retail outlets. • Nineteen studies that provide direct evidence on the effectiveness of facemask use in community settings to reduce transmission of respiratory viruses were identified. • Four studies were conducted in the context of the COVID-19 pandemic, the remaining studies considered influenza, influenza-like illness (ILI), or SARS-CoV-1. Eight studies examined the effectiveness of medical masks, nine studies did not specify the type of mask used, one study included both medical and non-medical masks and one study included all types of masks. • Four observational studies conducted during the COVID-19 pandemic, suggest that facemasks may reduce the risk of SARS-CoV-2 infection. Two observational studies that examined the effectiveness of wearing facemasks when going out in public suggested that facemasks may have been protective against SARS-CoV-1 infection. • Six randomised control trials (RCTs) set in households provide some weak evidence that medical masks worn by both index cases and healthy household contacts can reduce the risk of secondary household infections, when implemented early and combined with intensified hand hygiene. • There was no evidence from the included studies that facemasks increase harm or introduce a false sense of security leading wearers to neglect hand hygiene. • The quality of evidence from the studies included was low; two of the studies conducted during the COVID-19 pandemic have not yet been formally peer-reviewed.
	<p>Facemasks and COVID-19 transmission in the community</p> <p>Abstract</p> <ul style="list-style-type: none"> • There is direct evidence of contact and droplet transmission of COVID-19. Flow physics and experimental models suggest, but have not demonstrated, airborne transmission. • Epidemiological data on infection rates and transmission patterns are difficult to reconcile with long-range aerosol-based transmission. Where symptomatic patients are cared for, no studies to date have found viable virus in air samples. • Community mask use is either encouraged or mandatory in over 80 countries. Face coverings have been mandated in parts of Victoria.(4)

	<ul style="list-style-type: none"> • In countries with community transmission, the adoption of mandatory facemask use has been associated with decreasing infection rates. These decreases have not been directly attributed to facemask use, as a suite of measures is generally adopted. • Multiple systematic reviews examine the effect of facemasks in community settings on reducing influenza like illness. Results are conflicting, with some reporting a protective effect and others no significant reduction in influenza like illness transmission. • Respiratory etiquette, hand hygiene, social distancing, and isolation of cases, have a much stronger evidence base than facemasks. Facemasks are considered to be an additional measure, but there are concerns that masks can give a false sense of protection and may result in decreased compliance with other infection prevention practices. • There is very little evidence on use of facemasks on public transport, however some reviews conclude masks may have a role in settings where social distancing is not feasible. • Some experts counsel a precautionary approach despite a lack of clear evidence. • Cloth masks have variable filtration depending on the fabric. • A systematic review found no studies on mask use among COVID-19 negative people in community settings.
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Appendix 5: Documents excluded at the final stages of reviewing

Type of document	Focus
Guidelines developed using a robust process (e.g., GRADE)	
Full systematic reviews	
Rapid reviews	
Guidance developed using some type of evidence synthesis and/or expert opinion	
Protocols for reviews that are underway	
Titles/questions for reviews that are being planned	
Single studies in areas where no reviews were identified	Locally produced cloth facemask and COVID-19 like illness prevention (RCT protocol)
	Face coverings for the public: Laying straw men to rest
	Association between universal masking in a health care system and SARS-CoV-2 positivity among health care workers
	Endonasal instrumentation and aerosolization risk in the era of COVID-19: Simulation, literature review, and proposed mitigation strategies