

What can research evidence tell us about:

Effectiveness of wearing face masks and implementation strategies for public use during COVID-19: Rapid Evidence Review

[20 May 2020]

Key Message

Since the evidence on cloth masks is not satisfactory and might even pose risks (might give exaggerated or false sense of security and neglect physical or social distancing), physical or social distancing should be given priority

Surgical/medical masks are better than cloth mask is too obvious and it is out of desperation people are wearing home-made/cloth masks. However, it is necessary to use medical/surgical masks accompanying with accurate messaging that combines the other public health and social measures like physical or social distancing, and hygiene to effectively control COVID-19

Summary of the review

- ① There is no evidence that cloth masks in the community setting prevent viral respiratory illness and may present a risk to the wearer in healthcare settings.
- ② There is no sufficient and strong evidence to recommend the universal wearing of facemasks (medical/surgical) as a protective measure against COVID-19. However, there is enough evidence that support the use of medical/surgical masks for short periods of time particularly by vulnerable individuals when they are in transient higher risk situations. There is also evidence that claims medical/surgical masks might be modestly effective against household infections (when both infected and non-infected people wear them), and slightly protective against infection from casual community contact.
- ③ Medical/surgical masks are in widespread use by the public, though there is no evidence whether these prevent masks acquisition of COVID-19 or not. As a result, there has been reported a global shortage of face masks for healthcare workers. To manage such critical shortages, implementation strategies supporting the use of face masks and exploring different options are essential. The following are some of the strategies supporting the use of masks under shortage conditions to prevent COVID-19.
 - A) Producing face masks (rapid technological innovations, and fast-tracking regulatory processes);
 - B) Allocating (efficient allocation and stocking practices);
 - C) Using masks (support for correct use and monitoring for correct use);
 - D) Conserving masks (use beyond the recommended duration and use beyond the recommended shelf life);
 - E) Re-using masks (re-using by the same person without decontaminating, decontaminating and reusing by the same person, and decontaminating and reusing by others); and
 - F) Re-purposing masks (alternative materials)
- ④ Recommendations for facemask use among the general public in community settings were inconsistent in different jurisdictions (*NB: See country's experiences in appendix 1*)

What is Rapid evidence Review?

Rapid evidence review addresses the needs of policymakers and managers for research evidence that has been appraised and contextualized to a specific context in a matter of hours or days. This rapid evidence review goes beyond research evidence and integrates multiple types and levels of evidence

Where did this Rapid Evidence Review come from?

This document was created in response to issues related about effectiveness of different types of face masks and its implementation strategies around its use by the public to control the spread of COVID-19 in Ethiopia. It was prepared by the Knowledge Translation Directorate, Ethiopian Public Health Institute.

+ Included:

- Key findings from research and implementation considerations

X Not included:

- Recommendations
- Detailed descriptions



Rapid & Responsive Evidence Partnership (RREP)



Background

The outbreak of coronavirus disease 2019 (COVID-19), which originated in Wuhan, China, in December 2019, has been declared a public health emergency of international concern by the World Health Organization (WHO, 2020a). On Jan 20, 2020, China declared the disease a second-class infectious disease but has introduced management measures for a first-class infectious disease (considered the most dangerous category of infection). To date, there are no effective pharmacological interventions or vaccines available to treat or prevent the COVID-19 pandemic. As a result, most areas of the countries have adopted public health first-level response measures (considered the highest level of response). In the face of the rapidly spreading disease and a large number of infected people, there is an urgent need for public health and social measures, also known as non-pharmaceutical interventions. These are the essential components of COVID-19 response strategies (Resolve to Save Lives, 2020; WHO, 2020b).

WHO has appropriately categorized public health and social measures into **personal protective measures** such as hand hygiene and wearing face mask; **environmental measures** such as increased cleaning and disinfection of spaces; **physical (social) distancing measures** such as isolation of sick and quarantine of exposed, school and workplace measures and closure, stay-at-home orders and closure of non-essential services; and **travel-related measures** such as entry and exit screening, internal travel restrictions, and border closures (WHO, 2020b).

The public health and social measures should be implemented based on scientific evidence and with care as they can be socially and economically disruptive. However, some of the measures that have been introduced with no scientific basis have proven to be ineffective (Novaes *et al.*, 2020). Ethiopia declared a five-month State of Emergency (effective date as of 10 April 2020) to curb transmission of COVID-19. Since then, the country implemented public health and social measures to control the coronavirus, though the compliance of those measures by the public is

How this Rapid Evidence Review was prepared?

The methods used to prepare in this rapid evidence review were adopted from the SURE Rapid Response Service:

www.evipnet.org/sure/rr/methods

AND

McMaster Health Forum, COVID-19 Evidence Network to support Decision-making, COVID-END

<https://www.mcmasterforum.org/networks/covid-end>

In this review, we have searched for relevant evidence about the effectiveness of wearing face masks and its implementation strategies about its use by the public to prevent the spread of COVID-19.

Our search was directed by the guide to COVID-19 evidence sources

<https://www.mcmasterforum.org/fi-nd-evidence/guide-to-covid-19-evidence-sources>

The country's experiences to contain COVID-19 pandemic related to face mask were also identified in this review.

debatable. The scientific bases of some of the measures are also known or “not well communicated”.

This rapid evidence review, therefore, focused on summarizing evidence dealing with the effectiveness of different types of face masks (one of the personal protective measures) and its implementation strategies towards its use by the public. This review will help in guiding our policymakers on how face masks should be used by the public to combat the COVID-19 pandemic.

The research evidence of the effectiveness other measures (other than face masks) will be addressed by follow-up rapid evidence reviews.

Review findings

We searched for relevant systematic reviews and rapid reviews to summarize the findings in our review. We searched for relevant evidence on the effectiveness of wearing face masks (different types) and its implementation strategies about its use by the public in controlling the spread of COVID-19. More specifically our search focused on the following three issues:

1. Effectiveness of different types of non-medical masks and whether everyone should wear them;
2. Evidence on wearing of medical masks by non-medical essential workers; and
3. Evidence related to the implementation strategies towards the use of face masks to prevent community transmission of COVID-19 (under shortage conditions)

The methodological quality of the included systematic reviews and rapid reviews were assessed using AMSTAR and we granted the rates already made by the authors of the included documents. When no relevant systematic reviews or rapid reviews were identified, guidelines that were developed using some type of evidence synthesis or an expert opinion and single studies (from published and grey literature) were used to summarize our findings.

Based on our search, we found four most relevant rapid reviews that provide evidence about the effectiveness of wearing face masks and its implementation strategies around its use by the public. The summary of the findings from these documents is presented below based on the search results on the three specific issues mentioned.

Country experiences and WHO guidelines around the use of face masks in controlling the spread of COVID-19 were also included in this review and a summary of their practices is provided in [appendix 1](#). The countries included in this review were selected because they have (or had) a high prevalence of COVID-19 and/or have gradually reopened.

1. Evidence about the effectiveness of different types of face masks

We found one rapid review dealing with evidence on the effectiveness of different types of non-medical masks and whether everyone should wear them especially for preventing community transmission of COVID-19 pandemic (Wilson et al., 2020). The summary of the findings from the most relevant documents (three rapid reviews and one systematic review) related to the effectiveness of different types of non-medical masks are presented in table 1.

Table 1: key findings of the most relevant documents (rapid reviews and systematic reviews) about the effectiveness of different types of non-medical masks and whether everyone should wear them (Wilson et al., 2020)

Type of document	Area of Focus	Key findings	Evidence quality (AMSTAR score)
Rapid reviews (n=3)	<ul style="list-style-type: none"> ✓ Effectiveness of different types of non-medical masks, AND ✓ Evidence about whether everyone should wear them 	<ul style="list-style-type: none"> – There is no evidence that cloth masks in the community setting can prevent viral respiratory illness – Cloth masks might increase the risk to wearers compared to medical masks in healthcare settings 	Medium-quality (6/9)
	<ul style="list-style-type: none"> ✓ Evidence about whether everyone should wear them 	<ul style="list-style-type: none"> – Evidence is not strong enough to recommend the universal wearing of masks but showed that it may 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 	Medium-quality (7/11)
	<ul style="list-style-type: none"> – Effectiveness of different types of non-medical masks 	<ul style="list-style-type: none"> – The use of cloth masks in healthcare settings might increase the rates of infection, and it should be used as last resort 	Low-quality (1/9)
systematic reviews (n=1)	<ul style="list-style-type: none"> – Effectiveness of different types of non-medical masks 	<ul style="list-style-type: none"> – The systematic review did not find any studies that investigated the effectiveness of face masks in limiting the spread of COVID-19 among those who are not medically diagnosed with COVID-19 	Low-quality (3/6)

Note: AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality and has three levels (high quality = 8 to 11; medium quality = 4 to 7; and low quality = 0 to 3).

Details of the findings from the rapid review included in our review are available at:

https://www.mcmasterforum.org/docs/default-source/covidend/rapid-evidence-profiles/covid-19-rep-4_non-medical-masks.pdf?sfvrsn=73bd57d5_4).

2. Evidence on wearing medical masks by non-medical essential workers

We found one relevant rapid review dealing with evidence on the use of medical masks by essential non-medical workers (e.g., grocery store and other food outlet workers; transportation employees; supply chain workers supporting essential products; and law enforcement) to prevent community transmission of COVID-19 pandemic (Waddell et al., 2020). The key findings from the relevant documents (six guidelines that were developed using some type of evidence synthesis or expert opinion, and one primary study) on wearing medical masks by non-medical essential workers are presented in table 2.

Table 2: Key findings of the most relevant documents (guidelines and single studies) about the use of medical masks by non-medical essential workers (Waddell et al., 2020)

Type of document	Area of Focus	Key findings	Source of evidence
Guidelines developed using some type of evidence synthesis and/or expert opinion (n=6)	– Evidence on the wearing of medical masks by non-medical essential workers	<ul style="list-style-type: none"> – Medical masks may be worn among professions that have close proximity with other people (e.g., cashiers, police force) when asymptomatic cases are thought to be high – Some staff working in points of entry at airports, ports, and ground crossing should be wearing medical masks (e.g., screeners, interviewers, cleaners) – Medical/surgical mask should be made available in workplaces for workers developing respiratory symptoms including prisons and other places of detention 	WHO technical guideline
	– Evidence on the wearing of medical masks by non-medical essential workers	– Employees should wear a face mask at all times while in the workplace for 14 days after being in contact with a COVID-19 case	U.S CDC
	– Evidence on the wearing of medical masks by non-medical essential workers	– Medical masks should be worn by frontline workers including police and military	Colleges of Medicines of South Africa
	– Evidence related to the implementation of medical masks for non-medical essential workers	– Recommendations for facemask use among the general public in community settings were inconsistent in a comparison of recommendations from different jurisdictions	Overview of guidance from multiple jurisdictions (Lancet)

Single studies (n=1)	– Evidence on the wearing of medical masks by non-medical essential workers	– Medical masks are not fully protective in hospitals but are useful for use in community settings, and when medical masks are in shortage, homemade masks made of four-layer kitchen paper and layer of polyester cloth should be helpful	Effectiveness of medical masks conducted in China
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Note: Methodological quality using AMSTAR was not assessed (Not applicable for findings from guidelines)

Details of the findings from the rapid review included in our review are available at:

https://www.mcmasterforum.org/docs/default-source/covidend/rapid-evidence-profiles/covid-19-rep-5_medical-masks_2020-04-29_final.pdf?sfvrsn=99be57d5_2

3. Evidence related to the implementation strategies supporting the use of face masks (under shortage conditions)

Globally, health authorities have followed different trajectories in recommendations around the use of face masks by the public (Feng et al., 2020). N95 respirators are recommended for hospitals where health-care workers are in direct contact with COVID-19 patients like conducting aerosol-generating procedures, while surgical masks are recommended for non-aerosol generating procedures (Hirschmann et al., 2020). Though there is no evidence that medical/surgical masks prevent the acquisition of COVID-19, these masks are in widespread use by the general population (National Health Commission of China., 2020). As a result, there has been a global shortage of face masks for health workers, with health workers falling ill and dying of occupationally acquired COVID-19 disease (Lancet, 2020). To manage such critical shortages, implementation strategies supporting the use of face masks and exploring different options are essential. The following are some of the strategies supporting the use of masks under shortage conditions to prevent COVID-19 (Waddell et al., 2020; Wilson et al., 2020).

- A) Producing (home-based production, rapid technological innovations, and fast-tracking regulatory processes);
- B) Allocating (efficient allocation and stocking practices);
- C) Using masks (e.g., support for correct use and monitoring for correct use);
- D) Conserving masks (use beyond the recommended duration and use beyond the recommended shelf life);
- E) Re-using masks (re-using by the same person without decontaminating, decontaminating and reusing by the same person, and decontaminating and reusing by others); and
- F) Re-purposing masks (alternative materials).

The summary of the findings from the most relevant documents (ten rapid reviews and nine systematic reviews) related to implementation strategies supporting the use of face masks under shortage conditions are presented in table 3.

Table 3: Key findings of the most relevant documents (rapid reviews and systematic reviews) about implementation strategies supporting the use of masks (under shortage conditions) (Waddell et al., 2020; Wilson et al., 2020)

Area of Focus	Type of document	Setting/ Population	Key findings	Evidence quality (AMSTAR score)
Producing masks (rapid technological innovations)	– Rapid review	– Healthcare settings (Medical workers)	– Very limited evidence on the effectiveness of 3D-printed N95 respirators and face shields and many health authorities emphasized that 3D-printed N95 respirators may not provide the same fluid barrier and air filtration protection	Low-quality (4/9)
Allocating (efficient allocation)	– Systematic review	– Healthcare and non-healthcare settings (All citizens)	– Lack of evidence about the use of masks by those not diagnosed with COVID-19 to limit the spread	Low-quality (3/6)
Using (compliance or correct use)	– Rapid review	– non-healthcare settings (Citizens with confirmed or suspected COVID-19, high-risk citizens and all citizens)	– Evidence not strong enough to recommend the universal wearing of masks, but maybe 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	Medium-quality (7/11)
	– Rapid review	– non-healthcare settings (All citizens)	– No evidence that cloth masks in the community setting prevent viral respiratory illness and may present a risk to the wearer	Medium-quality (6/9)
	– Rapid review	– non-healthcare settings (Citizens with confirmed or suspected COVID-19, high-risk citizens and all citizens)	– Evidence about the effectiveness of facemasks was based mostly on medical-grade masks is not sufficiently strong to support widespread use as a protective measure against COVID- 19, but there is enough evidence to support the use of facemasks for short periods of time (e.g., by vulnerable individuals)	Medium-quality (7/11)
	– Rapid review	– Healthcare and non-healthcare settings (All citizens)	– Masks are essential for front-line workers alongside other PPE but are not recommended to be worn by all citizens	Low-quality (1/9)

	– Systematic review	– Healthcare settings (Medical workers)	– Using standard PPE and providing training for donning and doffing masks reduces contamination from highly infectious diseases	High-quality (9/10)
	– Systematic review	– Healthcare settings (Medical workers)	– Long and frequently changing guidelines make it difficult for staff to adhere to best practices in infection control and prevention	Medium-quality (7/9)
	– Systematic review	– Healthcare settings (Medical workers)	– Preservation of N95 respirators for high-risk procedures should be considered when in short supply	Medium-quality (7/10)
Allocating & Using	– Systematic review	– Healthcare settings (Medical workers)	– Standard surgical masks are as effective as N95 for preventing infection of healthcare workers	Medium-quality (7/10)
Conserving masks (extended use and use beyond shelf life), AND Re-using masks (reusing by the same person without decontaminating and decontaminating and reusing by the same person)	– Rapid review	– Healthcare settings (Medical workers)	– Reprocessing using ultraviolet light germicidal irradiation, vaporous hydrogen peroxide, and heat-based decontamination may be effective for decontaminating for the reuse of N95 masks, and extension of shelf life and extended use may also be options	Low-quality (1/9)
	– Rapid review	– Healthcare settings (Medical workers)	– In shortage contexts, extended use of N95 respirators is preferred over reuse, and wearing expired N95 respirators can be considered, after careful inspection	Low-quality (1/9)
	– Rapid review	– Not applicable (based on laboratory studies)	– Limited evidence from laboratory studies supports prioritizing extended use over reuse because N95s may readily spread infection by touch if donned and doffed and are prone to mechanical failure upon reuse	Low-quality (2/9)
	– Systematic review	– Healthcare settings (Medical workers)	– Decontaminating using ultraviolet light germicidal irradiation, vaporous hydrogen peroxide, and heat-based decontamination as well as extending the use and shelf life of N95 masks may support overcoming supply shortages	Low-quality (1/9)
Re-using masks (reusing by the same person without decontaminating	– Rapid review	– Healthcare settings (Not specified)	– Microwave irradiation and heat provides safe and effective decontamination options for N95 filtering facepiece respirator reuse during critical shortages, autoclaving masks is not recommended, and any mask disinfected using these	Low-quality (2/9)

decontaminating and reusing by the same person, and decontaminating and reusing by others)			methods should be inspected for physical degradation before reuse	
Re-using (decontaminating and reusing by the same person or by others)	– Systematic review	– Healthcare setting (Medical workers and non-medical workers)	– Vaporized hydrogen peroxide successfully decontaminates N95 facepiece respirators, whereas alcohol or sodium hypochlorite is not recommended	Medium-quality (7/11)
Re-using masks (decontaminating and re-using by the same person, and decontaminating and re-using by others)	– Systematic review	– Healthcare settings (Medical workers)	– Microwave irradiation and heat can provide safe and effective decontamination options for N95 mask re-use during shortages	Medium-quality (7/10)
	– Systematic review	– Healthcare settings (Medical workers)	– Ultraviolet light germicidal irradiation can restore N95 masks to certification standards of the National Institute for Occupation Safety and Health (U.S.)	Medium-quality (7/10)
Re-purposing (Alternative materials)	– Rapid Review	– Healthcare settings (Medical workers)	– The use of cloth masks in healthcare settings might increase the rates of infection, and it should be used as last resort	Low-quality (1/9)

Note: AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality and has three levels (high quality = 8 to 11; medium quality = 4 to 7; and low quality = 0 to 3).

Details of the findings from the rapid review included in our review are available at:

https://www.mcmasterforum.org/docs/default-source/covidend/rapid-evidence-profiles/covid-19-rep-6_masks.pdf?sfvrsn=21bf57d5_2, AND

https://www.mcmasterforum.org/docs/default-source/covidend/rapid-evidence-profiles/covid-19-rep-1_ppe.pdf?sfvrsn=52a657d5_4

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This rapid review was prepared by

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Conflicts of interest

No conflicting of interest.

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Appendix 1

WHO technical guideline and countries experiences on wearing face masks to prevent the spread of COVID-19 Pandemic

1. WHO guideline and statements from countries on the use of cloth masks	
Jurisdiction/ Country	Statement on whether everyone should wear cloth masks
WHO (technical guideline)	<ul style="list-style-type: none"> • There is no current evidence to make a recommendation for or against the use of non-medical masks made of other materials (e.g., cotton fabric) in the community setting, and if decision-makers proceed with advising the use of non-medical masks, the features to consider include numbers of layers of fabric/tissue, the breathability of material used, water repellence/hydrophobic qualities, the shape of the mask, and fit of the mask.
Canada	<ul style="list-style-type: none"> • On 16 April 2020, Health Canada indicated that when worn properly and following the guidance on the use appropriate material, wearing a non-medical mask or face covering can reduce the spread of his or her own infectious respiratory droplets. • However, it is also emphasized that wearing masks is not a substitute for other prevention mechanisms including staying at home, maintaining a two-meter physical distance from others, and avoiding touching the face.
China	<ul style="list-style-type: none"> • As of 4 February 2020, people have been divided into risk levels with those at low risk and above being asked to wear a disposable medical mask, and those at very low risk of infection do not have to wear a mask or can wear a cloth mask. • Those deemed to be of very low risk of infection include people who mostly stay indoors and who work or study in well-ventilated areas.
France	<ul style="list-style-type: none"> • The initial response in France was that it was not useful for everyone to use a mask, but the government later noted that this was informed by concerns about the scarcity of medical masks. • On 15 April 2020, the Prime Minister announced general principles for the end of the lock-down period which will include mandatory use of non-medical masks on public transportation.
Germany	<ul style="list-style-type: none"> • On 15 April 2020, the national government announced as part of the easing of restrictions that non-medical masks are being recommended to be worn on public transit and in shops. • On 20 April 2020, most federal states announced a requirement to wear non-medical face masks on public transportation and in retail stores, with the exception of Berlin which has only made it mandatory on public transportation.
Italy	<ul style="list-style-type: none"> • On 5 March 2020, the Ministry of Health suggested that homemade face masks should be used only if there is suspicion of being sick or when assisting somebody who is. • However, in easing lockdown restrictions, the Scientific and Technical Committee has since stated that safety measures including the use of cloth face masks can reduce the risk of infection among workers returning to their places of employment.
New Zealand	<ul style="list-style-type: none"> • As of 25 April 2020, the New Zealand government does not support the widespread use of face masks by healthy people in the community. • If individuals choose to purchase or make their own masks, the government has

	published information about how to safely do so and how to wear along, which is accompanied by an outline of the risks of using masks poorly.
South Korea	<ul style="list-style-type: none"> • Since the beginning of the outbreak, South Korea has promoted the use of masks in public. • However, the use of masks in South Korea was common prior to the pandemic, mainly as a result of air pollution.
United Kingdom	<ul style="list-style-type: none"> • As of 28 April 2020, the Scottish Government has recommended that members of the public consider using face coverings in limited circumstances including public transportation and entering small shops but has noted that they do not need to be worn outdoors unless there is an unavoidable crowded situation
United States	<ul style="list-style-type: none"> • The Centers for Disease Control and Prevention is recommending the use of cloth face coverings in public settings where other social-distancing measures are difficult to maintain, especially in areas of significant community-based transmission
2. Countries experiences on the use of medical masks by essential non-medical workers	
Jurisdiction/ Country	Statement on whether everyone should wear cloth masks
Canada	<ul style="list-style-type: none"> • Medical masks including surgical, medical procedure masks and N95 masks are currently being recommended for medical workers
China	<ul style="list-style-type: none"> • Wearing medical or surgical masks is being recommended for those working in transportation hubs (e.g., train stations, airports, and subway stations), supermarkets, restaurants, community policing, prisons, nursing homes, welfare homes, mental health facilities, school classroom, and construction site housing. • Those working in high-risk areas, where it is not possible to keep two meters of distance are required to wear a mask that conforms to KN94/N95 and above without an exhalation valve
France	<ul style="list-style-type: none"> • Wearing medical masks is to be extended to include ambulance drivers, pharmaceutical assistants, radiology technicians, and domestic supports in health facilities. • Recommendations on the use of medical masks beyond medical workers have varied based on the availability of national supply of personal protective equipment
Germany	<ul style="list-style-type: none"> • All federal states have imposed a duty to wear masks in public transport and in shops, however additional information on the type of masks that are required for employees was not found
Italy	<ul style="list-style-type: none"> • No recommendations were found for the use of the medical masks by non-medical essential workers
New Zealand	<ul style="list-style-type: none"> • Medical masks and gloves are recommended for people who are unable to maintain more than one-meter contact distance from people with potential COVID-19 symptoms, including, but not limited to, police, prison staff, and customs staff
South Korea	<ul style="list-style-type: none"> • Medical masks similar to a KF94 or N95 model are recommended for anyone in public or dense locations, including workers
United Kingdom	<ul style="list-style-type: none"> • Medical masks are currently only recommended to be worn by medical workers
United States	<ul style="list-style-type: none"> • Medical masks are currently only recommended to be worn by for medical workers

3. WHO guidelines and countries experience in implementation strategies for supporting the use of masks (under shortage conditions)

Jurisdiction	Key features of implemented strategies
WHO	<p>Allocating and Using</p> <ul style="list-style-type: none"> • Three strategies should be used to optimize the availability of personal protective equipment: minimizing the need for PPE, ensuring rational and appropriate use of PPE and coordinating PPE supply chain management mechanisms (All settings and all citizens) <p>Using</p> <ul style="list-style-type: none"> • Different guidance is required for the appropriate use in schools, workplaces, long-term care facilities and institutions (All settings and all citizens) • Appropriate use and disposal of masks are key for their effectiveness on reducing transmission (All settings and all citizens) <p>Using and re-purposing</p> <ul style="list-style-type: none"> • Medical masks may be worn among professions that have close proximity with other people (e.g., cashiers, police force) when asymptomatic cases are thought to be high (non-health settings and all citizens) • There is no current evidence to make a recommendation for or against the use of non-medical masks made of other materials (e.g., cotton fabric) in the community setting, and if decision-makers proceed with advising the use of non-medical masks, the features to consider include numbers of layers of fabric/tissue, the breathability of material used, water repellence/hydrophobic qualities, the shape of mask and fit of the mask (non-health settings and all citizens) • Some staff working in points of entry at airports, ports, and ground crossing should be wearing medical masks (e.g., screeners, interviewers, cleaners) (non-health settings and essential workers) • Medical masks should be reserved for healthcare workers (All settings and all citizens) • Medical/surgical mask should be made available in workplaces for workers developing respiratory symptoms including prisons and other places of detention (non-health settings and essential workers)
China	<p>Using</p> <ul style="list-style-type: none"> • China's Joint Prevention and Control Mechanism of the State Council released guidelines for selection and use of masks to prevent COVID-19 in different populations • As of 4 February 2020, people have been divided into risk levels: <ul style="list-style-type: none"> – Those at low risk and above being asked to wear a disposable medical mask, and those at very low risk of infection do not have to wear a mask or can wear a cloth mask. – Those deemed to be of very low risk of infection include people who mostly stay indoors and who work or study in well-ventilated areas – Wearing medical or surgical masks is being recommended for those working in transportation hubs (e.g., train stations, airports, and subway stations), supermarkets, restaurants, community policing, prisons, nursing homes, welfare homes, mental health facilities, school classroom, and construction site housing. – Those working in high-risk areas, where it is not possible to keep two meters of

	<p>distance are required to wear a mask that conforms to KN94/N95 and above without an exhalation valve.</p>
France	<p>Allocating</p> <ul style="list-style-type: none"> • The government elaborated a strategy for the supply and management of protective masks in the country. <p>Using</p> <ul style="list-style-type: none"> • The government released guidelines for medical workers about what mask to wear in healthcare settings and non-healthcare settings. • The initial response in France was that it was not useful for everyone to use a mask, but the government later noted that this was informed by concerns about the scarcity of medical masks. On 15 April 2020, the Prime Minister announced general principles for the end of the lock-down period which will include mandatory use of non-medical masks on public transportation.
Germany	<p>Using</p> <ul style="list-style-type: none"> • On 15 April 2020, the national government announced as part of the easing of restrictions that non-medical masks are being recommended to be worn on public transit and in shops. • On 20 April 2020, most states announced a requirement to wear non-medical face masks on public transportation and in retail stores, with the exception of Berlin which has only made it mandatory on public transportation. • All states have imposed a duty to wear masks in public transport and in shops, however additional information on the type of masks that are required for employees was not found
Italy	<p>Re-purposing</p> <ul style="list-style-type: none"> • On 5 March 2020, the Ministry of Health suggested that homemade face masks should be used only if there is suspicion of being sick or when assisting somebody who is. However, in easing lockdown restrictions, the Scientific and Technical Committee has since stated that safety measures including the use of cloth face masks can reduce the risk of infection among workers returning to their places of employment. No recommendations were found for the use of the medical masks by non-medical essential workers
New Zealand	<p>Allocating</p> <ul style="list-style-type: none"> • The Ministry of Health released guidance for prioritizing personal protective equipment in healthcare settings. <p>Using and re-purposing</p> <ul style="list-style-type: none"> • The Ministry of Health released different guidance on the optimal use of personal protective equipment in healthcare settings and non-healthcare workplaces, as well as among the general population. • As of 25 April 2020, the New Zealand government does not support the widespread use of face masks by healthy people in the community. • If individuals choose to purchase or make their own masks, the government has published information about how to safely do so and how to wear along, which is accompanied by an outline of the risks of using masks poorly. • Medical masks and gloves are recommended for people who are unable to maintain more than one-meter contact distance from people with potential COVID-19 symptoms,

	including, but not limited to, police, prison staff, and customs staff
South Korea	<p>Producing</p> <ul style="list-style-type: none"> • The government encouraged companies with capabilities to ramp up their production of masks for distribution to pharmacies in order to supply the general population <p>Allocating</p> <ul style="list-style-type: none"> • The government banned the export of masks to prioritize domestic demand, and first prioritized ensuring facemasks were allocated first to physicians and medical staff, and after recommending all members of the public wear facemasks, used domestically produced masks, distributed to pharmacies to ration their sale among the general public while releasing guidelines on their re-use. • Private companies created apps to indicate how many masks were available to the public at nearby pharmacies, while the National Health Insurance Service Database was used to track how many masks were bought by each citizen <p>Using</p> <ul style="list-style-type: none"> • The government made clear that medical staff should be prioritized for use of masks, but that all citizens should wear masks when in public, tracking and monitoring the sale and use of masks using mobile apps • Medical masks similar to a KF94 or N95 model are recommended for anyone in public or dense locations, including workers. <p>Re-using</p> <ul style="list-style-type: none"> • The government published recommendations for how to re-use masks for the general public after rationing their sale in pharmacies
United Kingdom	<p>Producing</p> <ul style="list-style-type: none"> • The Medicines and Healthcare Products Regulatory Agency has put in place rules that masks must be approved and CE marked before the sale in the UK, and the Office for Product Safety and Standards has provided recommendations about how local businesses and local authorities can produce products that meet regulatory requirements for PPE • There are possible exemptions for some high-volume manufacturers of PPE for the regulatory process if they are meeting standards <p>Allocating</p> <ul style="list-style-type: none"> • Public Health England has recommended that all health and care staff know which type of PPE they need to wear in each context and setting and have access to the proper PPE that is appropriate for the setting in which they work <p>Using</p> <ul style="list-style-type: none"> • Public Health England has recommended: <ul style="list-style-type: none"> – all health and social care staff be trained on donning and doffing PPE, and practice hand hygiene after removing any element of PPE; – all health and social care workers wear a fluid-repellant surgical mask if they are providing care to an individual from a vulnerable group, enter an inpatient area containing possible or confirmed COVID-19 cases, enter the home of a confirmed or possible case, or deem their risk to be high in their care environment; – the rational use of all respirators (FFP3) and surgical masks, which it provides extensive guidance based on best practices about; and

	<ul style="list-style-type: none"> – that all patients use of facemasks unless their care can be compromised as a result of doing so. <p>Conserving</p> <ul style="list-style-type: none"> • Public Health England has recommended sessional (e.g., a ward round, taking observations of several patients in a cohort bay or ward) use of respirators, fluid-resistant (Type IIR) surgical masks (FRSM) rather than use for a single patient or resident <p>Re-using</p> <ul style="list-style-type: none"> • Public Health England as recommended re-use of masks only if not soiled, damaged or hard to breathe through, made with elastic hooks, stored properly (carefully folded so outer surface held inward, and in a sealable bag or box to reduce contact, and marked with wearer’s name), if it maintains good fit between use.
United States	<p>Producing</p> <ul style="list-style-type: none"> • On April 18, 2020, in response to concerns relating to insufficient supply and availability of face masks, the U.S. Food and Drug Administration issued an Emergency Use Authorization to help make medical products such as masks available as quickly as possible by allowing unapproved medical products to reach patients in need when there are no adequate, FDA-approved and available alternatives. <p>Allocating</p> <ul style="list-style-type: none"> • The U.S Centers for Disease Control and Prevention (CDC) released its Strategies for Optimizing the Supply of N95 Respirators <p>Using</p> <ul style="list-style-type: none"> • The U.S CDC released different guidance is required for the appropriate use in communities, schools, workplaces, and events • The U.S. Department of Labor and Department of Health & Human Services also released guidance indicating that most workers at high or very high exposure risk likely need to wear personal protective equipment, including a face mask or a respirator, depending on their job tasks and exposure risks <p>Re-using</p> <ul style="list-style-type: none"> • The U.S CDC released recommendations for extended use and limited reuse of N95 filtering facepiece respirators in healthcare settings <p>Re-purposing</p> <ul style="list-style-type: none"> • The U.S CDC recommended wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission