

Use of medical and non-medical/fabric masks for community outreach activities during the COVID-19 pandemic, based on current WHO guidance

Key messages

- Health workers carrying out community outreach activities in areas where SARS-CoV-2 is circulating should wear a medical mask
- Health workers providing care to suspected or confirmed COVID-19 patients should wear appropriate personal protective equipment for droplet and contact precautions (medical mask, eye protection, gown, and gloves)
- Non-health professionals involved in community outreach activities who are at higher risk of potential exposure to SARS-CoV-2 should wear a medical mask
- Non-health professionals involved in community outreach activities who are at lower risk of potential exposure to SARS-CoV-2 should wear a non-medical/fabric mask
- Any professional aged ≥ 60 years or who has underlying conditions should wear a medical mask

1. Introduction

This note focuses on the implications of current WHO guidance on use of medical and non-medical/fabric masks during the COVID-19 pandemic (1,2) for health workers and non-health professionals involved in community outreach activities, especially those against malaria, neglected tropical diseases (NTDs), tuberculosis (TB), human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) and vaccine-preventable diseases (VPDs).

It refers in particular to the use of masks when conducting:

- indoor residual spraying campaigns, community distribution of insecticide-treated nets (ITNs) and seasonal malaria chemoprevention for malaria;
- mass treatment, active case-finding, population-based surveys and targeted insecticide spraying for NTDs;
- provision of community-based prevention, diagnosis, treatment and care of TB and HIV/AIDS;
- immunization outreach activities for VPDs; and
- other community outreach activities, as relevant.

This note complements existing WHO guidance on community-based health care during the COVID-19 pandemic (1-5), in response to requests from Member States, partners and funding agencies, and is intended for decision-makers and not for individual mask users.

2. WHO guidance on mask use

The use of a mask should always be accompanied by other infection prevention and control (IPC) measures such as physical distancing of at least 1 metre, hand hygiene, avoidance of touching one's face, and respiratory etiquette using a bent elbow whenever coughing or sneezing. Limiting stay in crowded or enclosed spaces, ensuring adequate ventilation of indoor settings (6), and regularly cleaning high-touch surfaces are also key precautionary measures to follow. Their implementation in coordination with broader public health and social measures (PHSMs) such as testing, contact tracing, quarantine and isolation is critical to prevent human-to-human transmission of SARS-CoV-2 (4,5).

Masks should therefore be seen as a component of a package of interventions, as they are insufficient to provide adequate protection from infection or prevention of onward transmission (source control) when used alone (7).

In addition, non-medical/fabric masks should be washed daily or when soiled, while medical masks should be removed and replaced when they become soiled, wet or difficult to breathe through, and in any case discarded after a day of use (1).

2.1. Advice for health workers and caregivers who are not providing care to COVID-19 cases

In areas with known or suspected community, cluster or sporadic transmission of SARS-CoV-2, WHO recommends that all health workers and caregivers involved in essential routine services, home visits and community outreach programmes should wear a medical mask (1). When providing care to a suspected or confirmed COVID-19 case, however, this should be combined with droplet and contact precautions (medical mask, eye protection, gown and gloves); and if conducting any aerosol generating procedures (AGP), the medical mask should be replaced with a respirator (1).

In areas with no documented transmission of SARS-CoV-2, advice on use of medical masks by health workers and caregivers involved in essential routine or community outreach programmes should rely on a risk-based approach. This requires a programmatic and individual assessment of the risk of exposure to SARS-CoV-2 while providing care to patients for other needs, based on individual vulnerabilities, population density, feasibility of implementation of other IPC measures and the need to prioritize medical masks for health workers and at-risk individuals. If there is a perceived risk, health workers in any transmission scenario are recommended to wear a medical mask.

In addition, national guidelines should consider the local context, culture, availability of masks and resources required (1).

2.2. Advice for general population

In areas with known or suspected community or cluster transmission, the general population should wear non-medical/fabric masks: (i) in outdoor settings where physical distancing cannot be maintained; and (ii) in public indoor settings (including public transportation), where physical distancing of at least 1 metre cannot be maintained, if ventilation is adequate; and regardless of physical distancing, if ventilation cannot be assessed or is inadequate (1,6).

The same recommendation applies to people at higher risk of developing severe complications from COVID-19, the difference being that they should wear medical masks instead. Such vulnerable population groups include people aged ≥ 60 years, and those with underlying conditions such as cardiovascular disease, diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease, immunosuppression, obesity or asthma (1).

In areas with known or suspected sporadic transmission, or no documented transmission of SARS-CoV-2,

the decision on wearing masks by the general public should be taken according to a risk-based approach, as defined above (1).

3. Considerations for personnel involved in community outreach activities

Within the framework of the general guidance on masks (1), decisions on mask use for the different cadres of personnel involved in community outreach activities should be based on the assessment of risk of potential exposure to SARS-CoV-2. This reflects the specific roles and responsibilities of personnel, the projected transmission scenario at the time of implementation, and realistic expectations on all risk containment measures being in place.

Nevertheless, when any personnel involved in community outreach activities is engaged in providing care to a suspected or confirmed COVID-19 case, they should always apply contact and droplet precautions and wear the appropriate personal protective equipment (PPE), including the use of a medical mask, eye protection, gown and gloves (1); and if conducting any AGP, the medical mask should be replaced with a respirator (1).

Recommendations are summarized in Table 1.

3.1. Considerations for health workers and for non-health professionals at higher risk of potential exposure to SARS-CoV-2

Community outreach activities such as those implemented for malaria, NTDs, TB, HIV/AIDS and VPDs involve large numbers of health workers delivering medicines, vaccines, diagnostics, insecticide-treated nets and other medical consumables to communities, or otherwise engaged in active case-finding or mass screening.

In most settings, health workers' responsibilities entail frequent, close or prolonged contact with large numbers of individuals, and therefore place them at higher risk of potential exposure to SARS-CoV-2. Based on these considerations, and in line with the current WHO guidance for health workers and caregivers (1), a medical mask should be worn by these professionals throughout their activities.

Community outreach activities also involve other types of professional profiles, such as social mobilizers, enumerators and data collectors. For these cadres, especially when they are engaged in household visits and door-to-door activities, the risk of potential exposure to SARS-CoV-2 is likely to be very similar to that of health workers involved in delivering community services. The same recommendations on use of medical masks should therefore apply to them.

Only when in areas with no documented transmission of SARS-CoV-2, advice on use of masks should be based on a risk-based approach tailored to the professional task being performed.

Table 1. Recommendations on mask use for cadres of personnel involved in community outreach activities in the context of COVID-19

Transmission scenario [#]	Cadres of personnel involved in community outreach activities				
	Health workers providing care to suspected or confirmed COVID-19 cases	Health workers and non-health professionals at higher risk of potential exposure to SARS-CoV-2	Non-health professionals at lower risk of potential exposure to SARS-CoV-2		Insecticide spraying personnel
			People aged ≥ 60 years, and those with underlying conditions*	All other people	
Known or suspected community or cluster transmission of SARS-CoV-2	Medical mask (gown, gloves and eye protection also recommended)	Medical mask	Medical mask in outdoor settings where physical distancing cannot be maintained	Non-medical/fabric mask in outdoor settings where physical distancing cannot be maintained	Respiratory protective equipment (RPE) [§]
			Medical mask in public indoor settings	Non-medical/fabric mask in public indoor settings	
Known or suspected sporadic transmission of SARS-CoV-2	Medical mask (gown, gloves and eye protection also recommended)	Medical mask	Medical mask according to a risk-based approach [°]	Non-medical/fabric mask according to a risk-based approach [°]	Respiratory protective equipment (RPE) [§]
No documented SARS-CoV-2 transmission	Medical mask (gown, gloves and eye protection also recommended)	Medical mask according to a risk-based approach [°]	Medical mask according to a risk-based approach [°]	Non-medical/fabric mask according to a risk-based approach [°]	Respiratory protective equipment (RPE) [§]

* Underlying conditions include cardiovascular disease or diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease, immuno-suppression, obesity, or asthma.

[°] See text above for elements which may inform choice.

[§] Requirements for respiratory protective equipment (RPE) are usually indicated on the product label or in the Material Safety Data Sheet (MSDS) of the insecticide that will be sprayed. RPE may take the form of a respirator with specific filters for protection against gas/vapour/aerosols/particulate matter; the precise type and level of protection which is needed should be specified on the label or MSDS. Normally, respiratory equipment is required to meet a technical standard such as those set out by national, regional or international standardization bodies or equivalent (e.g. ISO, CEN, US NIOSH) (7). If the use of RPE is not mandated when handling or applying insecticides, as well as before starting or after completion of spraying operations, use of a mask to provide protection from SARS-CoV-2 may be necessary as indicated in the table.

[#] WHO defines seven transmission scenarios to describe the dynamic of the COVID-19 pandemic in a given area: (i) no (active) cases = no new cases detected for at least 28 days by robust surveillance system; (ii) imported/sporadic cases = one or more cases, imported or locally detected in last 14 days, without evidence of local transmission; (iii) clusters of cases = cases detected in last 14 days limited to well-defined clusters, linked by time, geographic location and common exposures; and (iv-vii) community transmission = outbreaks with the inability to relate confirmed cases through chains of transmission for a large number of cases, or by increasing positive tests through sentinel samples (routine systematic testing of respiratory samples from established laboratories). Community transmission includes four scenarios/levels (1 to 4), with low, moderate, high and very high incidence, respectively (4,5).

3.2. Considerations for non-health professionals at lower risk of potential exposure to SARS-CoV-2

Other cadres involved in community outreach activities include transport personnel, security staff, logisticians, supervisors and many other professional profiles, who are likely deployed in outdoor places and/or engaged in less frequent and shorter-duration contact with other individuals. Given the lower risk of potential exposure to SARS-CoV-2 of these cadres, the same recommendations as for the general population can be applied to them.

As a general rule, community outreach activities should be delivered in outdoor venues, and the amount of time spent in indoor settings should be kept to a minimum, while maintaining physical distance of at least 1 metre.

Consequently, when outdoors, cadres at lower risk of potential exposure to SARS-CoV-2 should wear a non-medical/fabric mask only if physical distancing cannot be maintained.

If conducting the outreach activity outdoors is not possible, and considering the practical difficulties of assessing adequacy of indoor ventilation, professional profiles at lower risk of potential exposure to SARS-CoV-2 should wear a non-medical/fabric mask in any indoor settings, regardless of whether physical distancing of at least 1 metre can be maintained.

The above recommendations apply to areas with known or suspected community or cluster transmission of SARS-CoV-2. When in areas with known or suspected sporadic transmission of SARS-CoV-2, or no documented transmission, advice on use of masks should rather be based on a risk-based approach, as defined above (1).

Special considerations apply as follows:

- Medical masks should be worn instead of non-medical/fabric masks by any professionals aged ≥ 60 years, and those with underlying conditions.

- Some staff involved in community outreach activities may play multiple roles. For example, logisticians or transport personnel may also participate in data collection or social mobilization activities in support of the rest of the team and therefore face a higher risk of potential exposure to SARS-CoV-2. In these cases, they should be assigned to the higher risk category and wear medical masks.

3.3. Considerations for insecticide spraying personnel

For personnel involved in insecticide spraying for malaria or NTDs, recommendations on respiratory protective equipment (RPE) should be followed when handling or applying insecticide (7).

When RPE is not needed, use of a medical or non-medical/fabric mask may be necessary to provide protection from SARS-CoV-2 according to the risk of potential exposure, as indicated in Table 1.

4. Considerations for procurement

The decision-making process for selection of non-medical/fabric versus medical masks should take into consideration availability of quality products, feasibility of mask management practices, as well as price of different types of masks available to the population of intended use (1). When medical masks are procured, their management should be coordinated through essential national and international supply management mechanisms, ensuring rational use and appropriate waste management (8,9).

In situations where there is severe or anticipated stockout, PPE must be prioritized for health workers delivering essential health services. Some last resort temporary measures may include using PPE items for longer than normal and using face shields with or without non-medical fabric masks – both options inferior to medical masks for protection against respiratory pathogens (8).

Compliance with the following manufacturing standards should be considered when producing or procuring medical masks (2):

Medical masks used for protection/source control inside health facilities

- EN 14683 (Type II or Type IIR), ASTM F2100 (Level 1, 2, or 3), YY 0469 OR YY/T 0969 (with at least 98% bacterial filtration efficiency (BFE))

Medical masks used for protection/source control outside health facilities

- EN 14683 Type I, ASTM F2100 Level 1, YY 0469 or YY/T 0969

Compliance with the following technical specifications should be considered when producing or procuring non-medical/fabric masks (1):

- *Homemade fabric masks using a three-layer structure (mirroring the functions of a medical mask) are advised, with each layer providing a function: (i) an innermost layer of a hydrophilic material (cotton) to absorb respiratory secretions; (ii) an outermost layer made of hydrophobic material (such as polyester or non-woven spun bond polypropylene); and (iii) a middle hydrophobic layer to enhance filtration (such as non-woven spun bond polypropylene).*
- *Factory-made fabric masks should meet the minimum thresholds related to the three essential parameters of the CEN CWA 17553 guidance: (i) filtration efficacy (>70% with $3 \pm 0.5 \mu\text{m}$ particles, either solid or liquid); (ii) breathability (< 60 pa/cm²); (iii) and snug fit (full coverage of mouth/nose/sides of face with minimal gaps).*

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