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# Ministry of Health and Child Care

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In partnership with

Zimbabwe Evidence Informed Policy Network

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## Use of Face Masks by the General Public

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### A Covid-19 Rapid Response Brief

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#### Background

The wearing of face masks by the general public to halt the spread and transmission of Covid-19 has received global attention in the wake of the pandemic. The use of face masks in public may serve as a means of source control to reduce the spread of community infection and transmission by minimising the excretion of respiratory droplets from infected individuals who have not yet developed symptoms or who remain asymptomatic. However, it is not known how much the use of non-surgical face masks in the community can contribute to a decrease in transmission in addition to the other countermeasures. In low resource settings, face-masks worn by the general population could be an accessible and affordable intervention, even effective when worn under routine circumstances. The coronavirus is still a new infection and specific treatments or a vaccine for Covid-19 are not yet available; thus, prevention is of paramount importance to contain its global spread.

In Zimbabwe, the government through the Ministry of Health and Child Care has intensified and scaled up the testing of the Covid-19 by using GeneXpert machines for rapid testing. The Government of Zimbabwe has also spearheaded the promotion of good personal hygiene and mandated employers providing critical service to develop policies to ensure social distancing. As of 5 May 2020 Zimbabwe has recorded xxx positive cases for COVID-19 and only 5 of the identified cases were due to local/community transmission. <sup>1</sup>

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<sup>1</sup> Ministry of Health and Child Care

## Health and Economic Considerations

However, realising that the country will need to prepare for the re-opening of the economy, this will mean the easing of restrictions in a phased approach, as guided by the World Health Organisation recommendations. This means additional safety measures will be required in instances where sufficient social distancing and good personal hygiene may not be optimum. The use of face masks by the general public could be considered as a complimentary safety measure to local and community transmission, especially in all public spaces such as markets, grocery stores, shopping centres, when using public transport or funerals and work spaces.

In light of the above ERAZ was requested the National Covid-19 Response Taskforce to conduct a rapid evidence synthesis to determine and answer the following question;

**What is the effectiveness of use of non-surgical face masks by the public/community for effective infection prevention and control of Covid-19, in low resource settings?**

## Methodology

A search strategy was developed to gather the evidence to answer the question; **What is the effectiveness of use of non-surgical face masks by the public/community for effective infection prevention and control of Covid 19, in low resource settings?**

The key elements of the review question were identified using the PICO approach and the scope of the search methodology was widened to include other previous but similar pandemics as given in the table below;

The focus on the target population was the general public or community but also included potential vulnerable populations to Covid-19 such as older adults, adults with underlying medical conditions and pregnant women.

Keyword	Alternatives
<ul style="list-style-type: none"><li>Public/Community (P) (Including Vulnerable Populations)</li></ul>	<ul style="list-style-type: none"><li>Public OR Community OR Residence OR Worker* OR (Including Vulnerable Populations) older adults OR adults with underlying medical conditions OR and pregnant women</li></ul>
<ul style="list-style-type: none"><li>use of non-surgical face masks (I)</li></ul>	<ul style="list-style-type: none"><li>Non-medical face mask* OR Community mask* OR self-made mask* OR commercial mask* OR Cloth mask* OR Cloth face covering OR Face Cover* OR Washable face mask* OR reusable face mask* OR scarves OR head scarves OR homemade face coverings</li></ul>
<ul style="list-style-type: none"><li>infection prevention and control of Covid-19 (O)</li></ul>	<ul style="list-style-type: none"><li>Infection Control Covid-19 OR Infection Prevention Coronavirus OR Infection Prevention Covid-19 OR Infection Control SARS OR Infection Control MERS-CoV OR Infection Prevention Swine Flu</li></ul>

A total of eighteen (18) articles were identified through database searching and 10 additional sources were identified through grey literature such as global policy documents. Five (5) duplicates were identified and removed. Exclusion and inclusion criteria was used for the screening process and seventeen (17) full articles were considered for eligibility and two full text articles were excluded for relevancy and context reasons. Final analysis included fifteen (12) articles. The reason for exclusion of articles included settings and language

### Search String

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((((((((((public) OR community) OR Residence) OR worker*) OR older adults) OR adults with underlying medical conditions) OR pregnant women) AND ( "2009/01/01"[PDat] : "2020/12/31"[PDat] ) AND Humans[Mesh])) AND (((((((((((Non-medical face mask*) OR non-surgical face masks) OR Community mask*) OR self-made face mask*) OR commercial face mask*) OR Cloth mask*) OR Cloth face covering) OR Face Cover*) OR Washable face mask*) OR reusable face mask*) OR scarves) OR homemade face coverings) AND ( "2009/01/01"[PDat] : "2020/12/31"[PDat] ) AND Humans[Mesh])) AND (((((((Infection Prevention Covid-19) OR Infection Control Covid-19) OR Infection Prevention Coronavirus) OR Infection Prevention Covid-19) OR Infection Control SARS) OR Infection Control MERS-CoV) OR Infection Prevention Swine Flu)
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### Key Findings

- Wearing a mask is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19. However, the use of a non- surgical mask alone is insufficient to provide an adequate level of protection (WHO, 2020). As such whether or not non-surgical masks are used, maximum compliance with hand hygiene and other IPC measures is critical to prevent human-to-human transmission of COVID-19,
- The use of non-surgical masks in the community may primarily serve as a means of source control in epidemic situations when the number of asymptomatic but infectious persons in the community can be assumed to be high. There is limited evidence showing that non-surgical face masks made from various materials may decrease the release to the environment of respiratory droplets produced by coughing, but available evidence suggests that non-surgical face masks are less effective than medical masks as a means for source control.
- The use of non- surgical masks in the community may create a false sense of security, with neglect of other essential measures, such as hand hygiene practices and physical distancing, and may lead to touching the face under the masks and under the eyes, result in unnecessary costs, and take masks away from those in health care who need them most, especially when masks are in short supply
- Type of Mask - use of masks made of other materials (e.g., cotton fabric), also known as non –surgical masks in the community setting has not been well researched, tested and evaluated. There is no current evidence to make a recommendation for or against their use in this setting (WHO, 2020). There is need for further research and development to better understand the effectiveness and efficiency of non-surgical masks.
- However, wearing a non-surgical mask could be considered, especially: when visiting busy closed spaces such as grocery stores, shopping centres, when using public transport; and for certain workplaces and professions that involve physical proximity to many other people (such as members of the police force, cashiers – if not behind a glass partition, etc.) and when teleworking is not possible.
- There are no established standards for non-surgical face masks. One of the advantages of non-surgical face masks made of cloth or other textiles is that they can be made easily and can be washed and reused.

- Ultimately, there is limited evidence that wearing a non-surgical by healthy individuals in the households or among contacts of a sick patient, or among attendees of mass gatherings may be beneficial as a preventive measure.
- The potential advantages of the use of mask by healthy people in the community setting include reducing potential exposure risk from infected person during the “pre-symptomatic” period and stigmatization of individuals wearing mask for source control

## Recommendations

- Robust and strong communication strategy to explain to the population what masks to wear, when and how; and on the importance of continuing to strictly follow all other IPC measures (e.g. hand hygiene, physical distancing, and others),
- The use of non-surgical masks in the community should be considered only as a complementary measure and not as a replacement of the core preventive measures that are recommended to reduce COVID-19 transmission including physical distancing, staying home when ill, teleworking if possible, respiratory etiquette, meticulous hand hygiene and avoiding touching the face, nose, eyes and mouth, However, if decisions or policies are to be made on the use of non-surgical masks by the general populace, the following features related to non-surgical masks should be taken into consideration: **1. Numbers of layers of fabric/tissue 2. Breathability of material used 3. Water repellence/hydrophobic qualities 4. Shape of mask 5. Fit of mask**
- The following potential risks must be taken in account in any policy making process:
  - Self-contamination that can occur by touching and reusing contaminated mask,
  - Depending on type of mask used, potential breathing difficulties may occur,
  - False sense of security, leading to potentially less adherence to other preventive measures such as physical distancing and hand hygiene,
- Given the limited and insufficient evidence base, a risk based approach can be applied which will consider the following factors adopted from the European Centre for Disease Prevention and Control, 2020 and WHO guidelines:
  - Purpose of mask use: the rationale and reason for mask use should be clear– whether it is to be used for source control (used by infected persons) or prevention of COVID-19 (used by healthy persons)
  - The population: current epidemiology about how widely the virus is circulating (e.g., clusters of cases versus community transmission), as well as local surveillance and testing capacity (e.g., contact tracing and follow up, ability to carry out testing), risk of exposure to the COVID-19 virus in the local context,
  - The individual: working in close contact with public (e.g., community health worker, cashier)
  - Vulnerability of the person/population to develop severe disease or be at higher risk of death, e.g. people with comorbidities, such as cardiovascular disease or diabetes mellitus, and older people,
  - Setting in which the population lives in terms of population density,
  - The ability to carry out physical distancing (e.g. on a crowded bus), and risk of rapid spread (e.g. closed settings, slums, camps/camp-like settings).
  - Feasibility: availability and costs of the mask, and tolerability by individuals.