NHS National Services Scotland

Extended use of face masks – A review of the evidence

SBAR (Situation, Background, Assessment, Recommendations) V3.0

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ARHAI Scotland
Antimicrobial Resistance and Healthcare Associated Infection

Version history

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V3.0	30 March 2023	Updated with latest evidence
V2.0	12 October 2022	Updated with latest evidence
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Contents

1. Situation

Most COVID-19 measures have now been stepped down across health and social care settings in Scotland. Enquiries were received by the Chief Nursing Officer Directorate (CNOD) in June 2022 as to whether the extended use of face masks in health and social care settings was still necessary. Following a commission from CNOD seeking a review of the evidence, ARHAI Scotland advice at that time was to retain the extended use of face masks until at least the end of the winter 2022/23 period. This advice was incorporated into a briefing to the Cabinet Secretary for Health and Social Care on August 3rd, and this advice was accepted by the Cabinet Secretary. In September 2022, the Scottish Government stepped down their policy with regards to extended face mask use in social care settings including adult care homes and reverted to the use of face masks in line with the National Infection Prevention and Control Manual (NIPCM) and the Care Home National Infection Prevention and Control Manual (CH IPCM) for SICPs and TBP requirements. At this time, the Scottish Government added an additional option of personal choice for face mask use within these settings.

In September 2022, ARHAI Scotland received a second commission from CNOD seeking an updated review of the evidence base on whether face masks are still effective/needed in healthcare. ARHAI Scotland advice at that time was to retain the extended use of face masks in clinical settings during the critical winter period, allowing boards to choose to continue with extended use of face masks across their estate based on local risk assessment. No change was made to guidance in social care settings.

ARHAI Scotland have received a third commission from CNOD in March 2023 seeking an updated review of the evidence base to consider whether:

1) the extended use of face mask guidance in primary and secondary healthcare settings is still necessary.
2) the guidance allowing staff and visitors in social care settings including adult care homes to choose to wear a face mask is still necessary.

2. Background

The extended use of face masks and face coverings in hospitals, primary care and wider community healthcare guidance was first published by Scottish Government in November 2020 and was a COVID-19 pandemic measure introduced primarily as a means of source control aimed at preventing contamination of the surrounding environment with COVID-19 particles generated by the wearer. The aim of this was to reduce the risk of COVID-19 transmission across all health and care settings to staff, service users and visitors. The extended wearing of face masks and face coverings guidance is applicable beyond the delivery of direct patient/service user care and is not to be confused with personal protective equipment (PPE) worn as part of SICPs or TBPs but rather is considered a supplement to IPC practices set out in the NIPCM and CH IPCM.

The extended use of face masks and face coverings guidance is one of many mitigation measures implemented since the COVID-19 pandemic emerged in February 2020 and currently remains extant in hospitals, primary care and wider community healthcare settings despite many other pandemic controls having been de-escalated in March 2022. Extended use of face masks offers additional protection when other layers in the Hierarchy of Controls (HoC) are not in place.

In a commission from Scottish Government in June 2022, ARHAI Scotland supported the retention of extended use of face masks, and this was incorporated into guidance for hospitals, primary care and wider community healthcare. This recommendation was made at a time when community and hospital prevalence was increasing. In a second commission from Scottish Government in September 2022, ARHAI Scotland supported the continuation of extended face mask use into the winter period in hospitals, primary care and wider community care.

Although extended use of face masks in in social care settings including adult care homes was stepped down in September 2022, the Care Inspectorate have recently raised concerns via their scrutiny colleagues regarding observed blanket use of face masks in care homes during inspection visits. This has led to questions over the preventative value of face masks when compared to the detrimental effects for residents who have impaired communication, dementia and/or other health issues. This also does not take into consideration use of face masks in a risk-based manner, and the unintended consequences of overuse and misuse.

In March 2023, the Scottish Government requested ARHAI Scotland to review their extant guidance on extended use of face masks in all health and social care settings.

3. Assessment

3.1 Evidence base for extended use of face masks

- There is a paucity of evidence specifically relating to the effectiveness of the extended use of face masks and face coverings by staff in health and social care settings beyond the delivery of direct care for the prevention of COVID-19 transmission. It is therefore not possible to determine via the extant literature, whether staff are at any less risk of COVID-19 acquisition by extended face mask use.
- There is also no evidence available to assess the effectiveness of mask wearing by asymptomatic individuals in preventing onward transmission in health and social care settings.
- There is weak evidence to support the wearing of a face mask by an individual with a known or suspected infection spread by the airborne or droplet route to reduce onward transmission.[1]
- Some of the negative aspects of mask wearing have been highlighted in qualitative studies of care home staff and visitors.[2-6] Mask wearing may cause distress to some residents as it can limit communication (speech matched with facial expressions), particularly in those with cognitive impairment. An online survey of English care home managers in 2020 provided anecdotal evidence that mask use in care home staff can have a negative impact on communication with residents, particularly those hard of hearing.[5] Interviews conducted in 2020 with residents' relatives also revealed that relatives found mask wearing challenging to engaging with residents with dementia as they cannot see facial expressions and may struggle to recognise family members.[2] In one qualitative study, relatives of care home residents with cognitive difficulties reported anxiety and stress when relatives and staff wore face masks, due to unfamiliarity and confusion.[6]

3.2 UK position on extended use of face masks

There has been some change to UK guidance on extended use of face masks since the October 2022 (v2.0) commission, specifically from the Department of Health and Social Care, NHS Wales, and Public Health Agency Northern Ireland.

- NHS England (NHSE) guidance remains unchanged, having published amendments to their extended use of face mask guidance on 1 June 2022 which saw a move away from universal masking for all health and care staff to a more risk-based approach[7] that is:
    - Universal masking should be applied when there is known or suspected cluster transmission of SARS-CoV-2, e.g., during an outbreak, and/or if new SARS-CoV-2 VOC emerge.
    - Universal masking should also be considered in settings where patients are at high risk of infection due to immunosuppression e.g., oncology/haematology; this should be guided by local risk assessment.
    - Health and care staff are in general not required to wear face masks in non-clinical areas e.g., offices, social settings, unless this is their personal preference or there are specific issues raised by a risk assessment. This should also be considered in community settings.
    - Inpatients are “not necessarily required” to wear a face mask unless this is a personal preference or if the patient is a suspected or confirmed COVID-19 case. Local risk assessment may determine extended face mask use for patients at high risk of infection due to immunosuppression.
    - Outpatients and patients of Urgent and Emergency Care (UEC) and primary care are not required to wear a face mask unless attending with respiratory symptoms.
    - Visitors and those accompanying patients to outpatient appointments are not routinely required although may be encouraged to do so following a risk assessment.
- UK Health Security Agency (UKHSA) guidance published 27th May 2022 remains unchanged and advises that masks ‘may be used’ in health and care settings depending on local prevalence and risk assessment.[8] This statement is directed at health and care professionals but does not specify specific groups or mention service users and/or visitors.
- The Department of Health and Social Care (DHSC) updated their guidance for adult social care on 23 December 2022 to reflect policy change to remove recommendations for universal masking at all times.[9] Face mask wearing in adult care settings may be considered in the following scenarios:
    - For care workers and visitors if the person they are caring for/visiting has known/suspected COVID-19, if the care worker/visitor is a household or overnight contact of someone with COVID-19, and if the care setting is experiencing an outbreak.

- On an individual basis if a care recipient is particularly vulnerable to severe outcomes from COVID-19, in accordance with their preferences.
- When an event or gathering is assessed as having a particularly high risk of transmission.
- If the care recipient would prefer care workers or visitors to wear a mask while providing them with care.
- If it is the personal preference of care workers and visitors to wear a mask in scenarios over and above those recommended in the guidance.

The guidance also states that if masks are being worn due to an outbreak or risk assessment, and the person receiving care finds the use of a mask distressing or it challenges communication, local risk assessment may be used to limit their use.

- NHS Wales (NHSW) published new guidance in February 2023 (IPC for acute respiratory infections including COVID-19 for health and care settings) that recommends:[10]
  - Extended face mask use for times of high community/clusters of respiratory infections, for high-risk patients such as those who are immunocompromised, while providing care to persons within "respiratory care pathways" and if new variant of concern emerges.
  - Face masks are not required in non-clinical areas e.g., offices, social settings.
  - Where patients are supported in community settings e.g., mental health/learning disabilities support in the community, staff are not routinely required to wear masks, similar to public health messaging in these settings, unless this is their personal preference.
- Public Health Agency Northern Ireland (PHANI) guidance for COVID-19 for all health and care settings was superseded by generic guidance for respiratory illnesses, published in their national manual in March 2023.[11] Extended face mask use was replaced by risk assessment:;
  - The use of face masks (type II or IIR) in patient facing clinical areas for staff, patients and visitors (face coverings) and in non-clinical areas (including client's own home) should be determined on a risk assessment. This risk assessment will depend on the presence of any respiratory illness.

3.3 Position on extended use of face masks by international key organisations

- COVID-19-specific guidance from the European Centre for Disease Control (ECDC) remains unchanged. Recent IPC guidance from ECDC for viral respiratory infections, published February 2023, advises that during periods of high community transmission of respiratory viruses (including SARS-CoV-2, influenza and RSV), staff, visitors and patients in primary and secondary care settings should wear medical masks in common areas and patient care areas.[13] As an alternative to universal masking, targeted clinical masking for healthcare workers in contact with patients can be implemented. ECDC state that decisions on implementation of universal or targeted clinical masking should consider the expected benefit as well as the burden on resources, staff, patients and visitors.
- US Centers for Disease Control and Prevention (CDC) remains unchanged. CDC advised in a publication dated September 2022 that when community transmission levels are high, source control is recommended for everyone in a healthcare setting when in areas where patients may be encountered. When community transmission levels are not high, healthcare settings can choose not to require universal source control. Source control is still recommended for individuals who work or reside in an area of a facility experiencing a SARS-CoV-2 outbreak. Individuals may also choose to wear source control based on personal preference.
- Guidance from the World Health Organization (WHO) updated on 13 January 2023[14] advises that in healthcare settings (including home visits, community outreach programmes/essential routine services, primary, secondary, tertiary care levels, outpatient care, and long-term care facilities) in areas of known or suspected community or cluster SARS-CoV-2 transmission: all HCWs, including community HCWs and caregivers, other staff, visitors, outpatients and service providers should wear a medical mask in the healthcare setting including communal areas (e.g. staff room, cafeteria). Inpatients should wear a medical mask when 1m physical distancing cannot be maintained (e.g., during examination) or when outside of room/care area. In areas of known or suspected sporadic SARS-CoV-2 transmission when caring for non-COVID-19 patients, health workers, including community health workers and caregivers who work in clinical areas, should continuously wear a well-fitting medical mask during routine activities throughout the entire shift, apart from when eating and drinking. In non-patient areas, staff are not required to wear a medical mask during routine activities if they have

no patient contact. No recommendation was given re: patients/visitors. Individuals with a higher risk of severe complications from COVID-19 should wear a medical grade mask where 1m physical distancing cannot be maintained.

Guidance summary

In summary, the 3 international IPC organisations (ECDC, CDC, WHO) continue to base the use of face masks outside of direct patient care on the level of community transmission and continue to take a precautionary approach to the extended use of face masks where community transmission is occurring. Only the ECDC allow an alternative approach to universal masking, allowing settings to choose targeted clinical masking for healthcare workers following a risk assessment. It should be noted that within Scotland, the ability to determine the emergence of a Variant of Concern (VoC) or community prevalence remains challenging due to a lack of data and intelligence.

Outside Scotland, the other 3 UK nations have further relaxed their extended use of face mask guidance, largely limiting these to staff working in patient facing settings occupied by patients with suspected or known COVID-19/ other transmissible respiratory illness. Beyond this, extended face mask use is determined by a risk assessment or personal preference. Risk assessments are no longer based around community prevalence, but rather an assessment of transmission risk within the setting (I.e., use of SICPs and TBPs). All UK nations except for Northern Ireland also recommend consideration of personal preference. DHSC guidance provides the most detail with regards to social care settings, supporting personal preference to avoid mask use around residents experiencing negative impacts (reduced communication, distress).

3.4 Epidemiological situation report for Scotland

Below is an epidemiological situation report for Scotland to help describe the current potential risk of transmission in Scotland using currently available data.

- **Wider population epidemiology**
    - In September 2022, most routine asymptomatic testing for COVID-19 in hospitals was paused, following the cessation of population testing at the end of April 2022.

As a result, the incidence of COVID-19 in hospitals and in the wider population will be underreported and interpretation of the data is challenging.

- The latest results from the Office for National Statistics (ONS) COVID-19 Infection Survey of private residential households (week ending 13 March 2023, published 24 March) indicated:
  - COVID-19 infections increased in England and trends were uncertain in Wales, Northern Ireland and Scotland.
  - In Scotland during the week ending 13 March 2023, the estimated number of people testing positive for COVID-19 was 136,200 (95% credible interval: 91,000 to 190,400), equating to 2.59% of the population, or around 1 in 40 people.
- Variants and mutations of SARS-CoV-2 continue to be monitored including for any changes that impact on severity of disease. Due to decreased COVID-19 testing, there are challenges in continued monitoring of variants and mutations. Based on the limited data, the most identified variants in Scotland are XBB.1.5 and CH.1.1 (unpublished PHS data).
- Whilst based on lower samples numbers than is optimal, the PHS Community Acute Respiratory Infection (CARI) surveillance indicates that there are a number of respiratory pathogens circulating in the community, including pathogens with a higher swab positivity than SARS-CoV-2. Unlike, SARS-CoV-2, these pathogens are not tested for in asymptomatic patients in healthcare.

- **Severity**
  - Preliminary analyses from a UK case control study indicate that neither of the dominant variants currently circulating in Scotland are associated with an increased risk of hospitalisation.[15]
  - Hospital admissions to be updated post IMT
  - The number of deaths where COVID-19 was identified as being involved in the death by a doctor, either as the underlying cause of death or as a contributory cause of death has remained relatively stable. There were 56 deaths reported to week ending 19 March 2023 of which 48 were in the 65 years and older age group.
  - The number of patients with COVID-19 in Intensive Care Units (ICU) remains low and has been relatively stable for a number of months. The seven-day average of patients in ICU with COVID-19 is 4 (in ICU for less than 28 days) and 1 (in ICU for more than 28 days).

- **Hospital epidemiology of COVID-19**
    - The number of open clusters has increased since the end of February 2023 and there were 104 open clusters as of 23 March 2023.
    - Clusters include all patient cases that are linked in time and place and will include nosocomial cases and introductions onto the ward from the community via patients, staff and visitors.
    - Many clusters continue to be managed using patient contact tracing and asymptomatic testing, usually with LFDs. This is resulting in high numbers of contacts and subsequent positive cases, often without symptoms or with mild disease.
    - The number of deaths reported in patients within clusters (not necessarily with COVID on the death certificate) has remained low with no indication of increasing numbers of deaths.
    - High levels of transmission in the community, as indicated in the above ONS data, will result in multiple introductions into hospitals. Whole genome sequencing analyses have indicated that some wards with large clusters reported to ARHAI Scotland had multiple phylotypes demonstrating multiple introductions.

- **Hospital epidemiology- hospital onset cases of COVID-19**
    - Public reporting of hospital onset COVID-19 cases ceased on the 1st March 2023, with validated case data available until 5th February 2023. Cases of hospital onset COVID-19 are now identified using data linkage and are no longer validated by the local team. Caution is therefore required in the interpretation of these data.
    - Hospital onset nosocomial cases increased during the latest week of reporting (week ending 19 March 2023) to 279 cases. This is comprised of 103 probable hospital onset cases and 176 definite hospital onset cases. The number of nosocomial cases is currently lower than the most recent peak of 347 nosocomial cases on the week ending 25 December 2022.

Epidemiological summary

Whilst there is evidence of nosocomial transmission in hospital settings and high prevalence in the community, there is currently no evidence of increasing severity of disease. The

epidemiological data must be considered in the context of predominantly asymptomatic cases or mild disease severity.

4. Recommendations

4.1 SG option proposals and ARHAI summary view of each

The Scottish Government has commissioned ARHAI Scotland to undertake a review of the evidence and data on the extended use of facemask guidance, and to give consideration on the following options in the table below. NSS ARHAI views from this review have been included.

Option		Pros	Cons	ARHAI View
1	**Retain the extended use of face masks in healthcare settings**	Retaining the extended use of face masks guidance maintains the last level of control within the Hierarchy of Controls when other controls are not considered optimal. Extended use of face masks is an additional line of defence, during periods when there is increased nosocomial transmission and high community prevalence. The health and social care population is dynamic and there remains a risk of community introductions into health and care settings. Extended face mask use may also act as source control.	Validated rates of transmission are difficult to gauge due to a pause in asymptomatic patient and healthcare worker testing. Risk of PPE fatigue, leading to breaches where face masks are not donned/doffed correctly, or they are frequently touched may increase risk of transmission. Individuals with cognitive impairment may experience distress and/or communication challenges when receiving care because of extended facemask use. Transparent masks are available, but they are not always suitable. Retaining extended use of face masks does not align with the NIPCM, e.g., SICPs and TBPs.	If there is a decision made to retain the extended use of face masks in healthcare settings, there is a concern that there is no nationally agreed 'trigger' or period as to when it would be considered appropriate to step-down extended use. Whilst there is increased nosocomial transmission, this is in the context of predominantly asymptomatic cases or mild disease severity. Preliminary analysis of the most recent VoC indicate that neither of these are associated with an increased risk of hospitalisation. Retaining extended use of face masks does not align with the other 3 UK Nations, and therefore makes Scotland an outlier.
2	**Remove extended use of face masks entirely – follow PPE guidance in line with the National Infection**	Removal of the guidance aligns with wider community guidance.	Complete removal of extended use of facemasks may result in a potential exposure risk to staff and service users at a time when community prevalence is high and there is evidence of increased nosocomial transmission.	This needs to be considered in conjunction with current testing guidance, as COVID-19 clusters are increasing. However, it should be noted

	Prevention Control Manual (NIPCM).	FRSM (PPE) use would continue in line with SICPs and TBPs, as part of the HoCs, and when appropriate during outbreaks. Removal of masks would be beneficial to individuals with communication issues or complex needs. We understand anecdotally there is PPE fatigue and so some staff would welcome the removal of extended use of face masks on the grounds of personal wellbeing. A return to the NIPCM provides clarity for staff and enables PPE use to be risk assessed. As part of local risk assessment, PPE will be used when it is needed most and mitigates against the risk of incorrect donning/ doffing, resulting in increased risk of transmission.	This may have an adverse impact on staffing levels within healthcare settings. In the NIPCM, personal choice is currently only indicated in the context of COVID-19 and use of Respiratory Protective Equipment (RPE), to align with DL 2022 (10). Both the DL and NIPCM would require revision to detail that personal choice should be considered for both FRSM and RPE and in the context of an individual risk-assessment, in conjunction with local Occupational Health Services.	that this is in the context of both mild disease severity and asymptomatic cases. As part of Appendix 21, respiratory screening questions would remain, which identify risks at early onset and allow for the use of SICPs and TBPs if indicated. A return to the NIPCM would allow for a focus on additional pathogens and a return to pre pandemic risk assessment approach for IPC. A removal would also support national sustainability agendas.
3	Remove the extended use of face masks in healthcare settings but give staff and	Removal of the guidance for extended use of face masks	.	In the NIPCM, personal choice is currently only indicated in the context of

	patients/visitors the option of wearing one if they wish (personal preference). *Also see Option 5 for personal preference.	aligns with wider community guidance. FRSM (PPE) use would continue in line with SICPs and TBPs, as part of the HoCs, and when appropriate during outbreaks.	This approach may cause confusion amongst staff groups and has the potential to cause anxiety if some staff choose to wear a mask and others do not within the same area.	COVID-19 and use of Respiratory Protective Equipment (RPE), to align with DL 2022 (10). Both the DL and NIPCM would require revision to detail that personal choice should be considered for both FRSM and RPE and in the context of an individual risk-assessment, in conjunction with local Occupational Health Services. As part of Appendix 21, respiratory screening questions would remain to identify risks at early onset and allow for use of face masks if indicated as per SICPs and TBPs.
4	Removal of blanket mask wearing but strongly recommend for staff working with more clinically vulnerable groups.	Extended face mask use in these areas may act as source control. Supports communication, compassion, and relationship building between staff and non-vulnerable patient groups. Nature of COVID-19 infection has changed since original policy was published. The average risk	Extended use of facemasks limited to these settings only provides a degree of protection to the vulnerable population within these settings and no longer offers protection associated with extended use amongst wider staff groups or patients. Due to service pressures vulnerable patients can be placed across a wide range of areas and settings within health and social care. Validated rates of transmission in community are difficult to assess.	Vulnerable patients can be placed across a wide range of areas and settings within health and social care. This approach would be challenging for local staff to implement. There is the potential for this approach to be misunderstood, and lead to confusion and possible accidental exposure.

		of serious illness is lower compared with early pandemic (2020) due to vaccination programme and adherence to IPC precautions.	Risk of vulnerable individuals being missed if not in high-risk area. Taking into consideration the dynamic nature of hospitals and bed management pressures this approach would be difficult to implement, considering staff and patient movement throughout other areas within the setting.	This option does not align with the current NHSE position.
5.	Is it appropriate to return to BAU and associated SICPs and TBPs and with it the removal of the Scottish Government extended use of face mask guidance in social care settings including adult care homes. Existing Scottish Government extended use of facemask guidance provides individuals with the option to wear facemasks whenever they wish within a social care and adult care home setting.	The current policy position would require no amendments and therefore no additional stakeholder communications would be required. FRSM (PPE) use would continue in line with SICPs and TBPs, as part of the HoCs, and when appropriate during outbreaks.	With the existing SG option of personal choice for extended facemask use, there is potential for blanket use and wide variation. There have been anecdotal reports of PPE misuse and overuse which may potentially lead to unintended consequences. From an IPC perspective facemask use has been reported to give a false sense of security resulting in lowered compliance with other IPC precautions e.g., hand hygiene, and respiratory hygiene. This position may support prolonged use of facemasks without replacement when required and negates the need for application on a risk assessment basis as per SICPs and TBPs. Facemask use is reported to cause distress due to limited communication and therefore a blanket use approach may result in increased anxiety and stress for individuals receiving care.	In the NIPCM and CH IPCM, personal choice is currently only indicated in the context of COVID-19 and use of Respiratory Protective Equipment (RPE), to align with DL 2022 (10). Both the DL and both the NIPCM and CH IPCM would require revision to detail that personal choice should be considered for both FRSM and RPE and in the context of an individual risk-assessment, in conjunction with local Occupational Health Services. The ARHAI view is that extended facemask use in social care settings and adult care homes should be based on an individual risk assessment as per the NIPCM and CH IPCM, as part of the HoCs, and when

				appropriate during outbreaks. Personal choice may increase confusion for individuals who have been known to adopt blanket use as opposed to individual risk assessment. With extended facemask use associated with personal choice consideration should also be given to long term resource requirements, feasibility, and sustainability. As part of Appendix 21, respiratory screening questions would remain to identify risks at early onset and allow for use of face masks if indicated as per SICPs and TBPs. If SG decide to retain personal choice as an option, then individuals in social care settings and adult care homes should be given information to ensure correct use and the risks should be explained, including the risks associated with misuse and overuse. This may also require additional education

				and training. SG would also be recommended to reinforce that extended facemask use does not replace IPC requirements as per the NIPCM, CH IPCM, HoCs and outbreak situations.

4.2 Final Recommendations

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