Advice to the National Public Health Emergency Team:

Reduction of the minimum age for the application of mask wearing requirements and recommendations

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About the Health Information and Quality Authority

The Health Information and Quality Authority (HIQA) is an independent statutory authority established to promote safety and quality in the provision of health and social care services for the benefit of the health and welfare of the public.

HIQA’s mandate to date extends across a wide range of public, private and voluntary sector services. Reporting to the Minister for Health and engaging with the Minister for Children, Equality, Disability, Integration and Youth, HIQA has responsibility for the following:

- **Setting standards for health and social care services** — Developing person-centred standards and guidance, based on evidence and international best practice, for health and social care services in Ireland.

- **Regulating social care services** — The Chief Inspector within HIQA is responsible for registering and inspecting residential services for older people and people with a disability, and children’s special care units.

- **Regulating health services** — Regulating medical exposure to ionising radiation.

- **Monitoring services** — Monitoring the safety and quality of health services and children’s social services, and investigating as necessary serious concerns about the health and welfare of people who use these services.

- **Health technology assessment** — Evaluating the clinical and cost-effectiveness of health programmes, policies, medicines, medical equipment, diagnostic and surgical techniques, health promotion and protection activities, and providing advice to enable the best use of resources and the best outcomes for people who use our health service.

- **Health information** — Advising on the efficient and secure collection and sharing of health information, setting standards, evaluating information resources and publishing information on the delivery and performance of Ireland’s health and social care services.

- **National Care Experience Programme** — Carrying out national service-user experience surveys across a range of health services, in conjunction with the Department of Health and the HSE.
The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a highly infectious virus which has caused tens of millions of cases of COVID-19 since its emergence in 2019, with a considerable level of associated mortality. In the context of the ongoing COVID-19 pandemic, SARS-CoV-2 constitutes a significant public health concern due to its high basic reproduction rate, the absence of immunity in the human population, the limited evidence of effective treatment approaches, and the constrained supply of vaccines in the early stages of population-level immunisation programmes.

The National Public Health Emergency Team (NPHET) oversees and provides national direction, guidance, support and expert advice on the development and implementation of strategies to contain COVID-19 in Ireland. Since March 2020, HIQA’s COVID-19 Evidence Synthesis Team has provided research evidence to support the work of NPHET and associated groups and inform the development of national public health guidance. The COVID-19 Evidence Synthesis Team, which is drawn from the Health Technology Assessment Directorate in HIQA, conducts evidence synthesis incorporating the scientific literature, international public health recommendations and existing data sources, as appropriate.

From September 2020, as part of the move towards a sustainable response to the public health emergency, HIQA provides evidence-based advice in response to requests from NPHET. The advice provided to NPHET is informed by research evidence developed by HIQA’s COVID-19 Evidence Synthesis Team and with expert input from HIQA’s COVID-19 Expert Advisory Group (EAG). Topics for consideration are outlined and prioritised by NPHET. This process helps to ensure rapid access to the best available evidence relevant to the SARS-CoV-2 outbreak to inform decision-making at each stage of the pandemic.

The purpose of this report is to outline the advice provided to NPHET by HIQA regarding the reduction of the minimum age for the application of mask wearing requirements and recommendations. In the context of very limited research evidence, the advice reflects the findings of a facilitated discussion with the HIQA COVID-19 EAG considering key issues regarding this policy question.

HIQA would like to thank its COVID-19 Evidence Synthesis Team, the members of the COVID-19 EAG and all who contributed to the preparation of this report.
Advice to the National Public Health Emergency Team: Reduction of the minimum age for the application of mask wearing requirements and recommendations

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Acknowledgements

HIQA would like to thank all of the individuals and organisations who provided their time, advice and information in support of this work.

Particular thanks are due to the COVID-19 Expert Advisory Group (EAG) and the individuals within the organisations listed below who provided advice and information.

Membership of the Expert Advisory Group involves review of evidence synthesis documents and contribution to a discussion which informs the advice from HIQA to NPHET. It does not necessarily imply agreement with all aspects of the evidence synthesis or the subsequent advice.

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The advice is developed by HIQA’s COVID-19 Evidence Synthesis Team with support from HIQA’s COVID-19 Expert Advisory Group. Not all members of the Expert Advisory Group and Evidence Synthesis Team are involved in the response to each research question. The findings set out in the advice represent the interpretation by HIQA of the available evidence and do not necessarily reflect the opinion of all members of the Expert Advisory Group.

**Conflicts of Interest**

None declared.
Advice to the National Public Health Advisory Team

The purpose of this report is to provide advice to the National Public Health Emergency Team (NPHET) on the following policy question:

"Should the minimum age for the application of mask wearing requirements and recommendations be reduced?"

For the purposes of this advice document, the term ‘mask’ is interpreted as either a disposable medical or surgical type mask, or as a reusable fabric or cloth face covering. Unless otherwise stated, this advice does not pertain to respirator masks (for example, FFP2 medical masks), face shields or face visors.

In the context of limited research evidence regarding a number of key factors to inform this policy question, the advice from HIQA is informed by the expert opinion of the HIQA COVID-19 Expert Advisory Group (EAG) following a facilitated discussion on the considerations identified.

A number of presentations were delivered to the COVID-19 EAG on issues relating to this policy question including:

- current requirements, recommendations and guidance with respect to face mask use in the community setting
- importance of the B.1.1.7 variant and other variants of concern to SARS-CoV-2 transmission in children
- epidemiological evidence regarding transmission in children
- evidence regarding the effectiveness of face masks in reducing transmission of SARS-CoV-2
- consideration of potential benefits and harms that may be associated with the wearing of face masks by children
- acceptability to relevant stakeholders, including, for example, children, parents and teachers, of a face mask requirement
- feasibility of a face mask requirement for younger children
- contextual considerations
- examples of international recommendations regarding the use of face masks by children.
The key points from these presentations which informed HIQA's advice, are as follows:

**Current (as of 3 March 2021) requirements, recommendations and guidance:**

- Individuals are required, by law, to wear a face covering on public transport and in shops and other specified retail settings. Children under 13 years of age are exempt from this requirement, as are persons with a 'reasonable excuse'. Such persons include, for example, those who cannot wear a face covering due to physical or mental illness or disability or because it would cause severe distress to the wearer.

- Face coverings are also recommended for the general population in certain circumstances, including visits to the homes of those who are over 70 years of age or who are medically vulnerable, or where a person is in a busy or crowded outdoor space or where 2 metres distance from other people cannot be maintained.

- Guidance for children specifies that children over the age of 13, and all secondary school children, should follow the advice for adults around face coverings. HSE guidance states that ‘face coverings are not recommended for children under the age of 13, but some children may choose to wear one’. The guidance also states that children under 13 should wear a face covering if their doctor or healthcare worker tells them to do so.

**Importance of variants of concern**

- There are a number of SARS-CoV-2 variants of concern. These include the variants B.1.1.7, B.1.351, and P.1, which have been associated with an increase in transmissibility.

- The B.1.1.7 variant is currently the predominant strain in the UK and Ireland. The B.1.351 variant is currently the predominant strain in South Africa while the P.1 strain is the predominant strain in Brazil.

**Epidemiology of transmission in children**

- To date, children have not been found to be the main drivers of transmission within the community.

- Where children become infected with SARS-CoV-2, the clinical course of disease is typically mild, though there have been a small number of children who have experienced severe illness.
Where a confirmed case of COVID-19 occurs within a school, a robust Public Health Risk Assessment (PHRA) is performed by the Regional Department of Public Health. Such assessments explore information and factors within the school that are relevant to infection transmission, interactions of the community of pupils and teachers within the school and with the wider community, patterns of infection within the wider community, and general community infection rates. Decisions on the need to exclude any pupils, test pupils, close, or partially close any school are undertaken by the Medical Officer of Health within Regional Departments of Public Health, informed by the PHRA.

Based on Irish data from investigations of school outbreaks collected up until December 2020, there are low rates of test positivity among both pupils and staff (approximately 2-4% of close contacts tested). This compares to a positivity rate in close contacts within the general community setting of approximately 15%.

School classrooms appear to be a well-controlled low-risk environment for transmission of SARS-CoV-2. Higher risks of transmission have been associated with transport or travel to and from schools, mixing of pupils during break times, and social interaction.

Transmission within schools is best avoided through the use of layered mitigation measures. These include avoidance of attendance with symptoms of COVID-19, physical distancing within schools, on schools grounds and when travelling to and from school, appropriate hand hygiene, cough etiquette, and increased ventilation of indoor spaces; no single measure is sufficient in isolation.

There may be unintended consequences associated with use of face coverings in young children; particularly among very young children who have difficulty in correctly wearing face coverings. More touching of faces may occur, including by those supervising children (e.g. teachers) where they need to assist a child with a face covering; this may lead to closer contact and potentially touching of high risk secretions.

**Effectiveness of face masks in reducing transmission of SARS-CoV-2**

Reports on the effectiveness of face mask use in the general community setting, including those conducted by HIQA (November 2020) and by the ECDC (February 2021), have concluded that although the evidence base for face mask use is limited, the totality of evidence points towards a reduction in
SARS-CoV-2 infection associated with mask use, and a lack of evidence of significant harm.

- With respect to evidence in children, the WHO’s interim guidance, dated August 2020, identified that there was some evidence for masks providing both source control and a protective effect to the wearer, but that mask use effectiveness appears to be reduced in younger age groups, and that compliance was poor overall. However, the studies informing this assessment predominantly studied the use of medical masks and were conducted prior to the emergence of COVID-19.

- Current CDC guidance (February 2021) regarding transmission in schools refers to studies of outbreaks in schools where multiple mitigation approaches were in place and where breaches in mask use were considered to be linked to the developments of clusters. Three further observational studies, published as peer-reviewed and preprint manuscripts, have observed associations between mask use in children (school and summer camp settings) and reduced SARS-CoV-2 transmission. These studies are subject to a variety of potential biases and confounding and represent low-certainty evidence.

_Potential benefits and harms associated with the use of face masks by children_

- Potential benefits of a face mask recommendation may be accrued by children, their parents, guardians, teachers and those caring for children otherwise, and by society.

- If children are to experience a reduction in transmission of SARS-CoV-2, they benefit from avoidance of negative health effects, be they physical or psychological. They also benefit from avoiding the educational and social consequences of COVID-19 exposure, that is, the need for isolation, restriction of movements, or school closures. The ill effects of school closures on child well-being and development, particular among primary school children, have been comprehensively documented in national and international reports.

- Reduction in transmission of SARS-CoV-2 among children benefits society in the following ways:
  - allowing schools to remain open
  - reducing the overall burden of COVID-19 morbidity and mortality
o contributing to lower levels of public health restrictions in the community.

- While a variety of potential harms have been identified for face mask use, there is little documented evidence of harms in the setting of COVID-19, particularly for cloth face mask use among children. WHO interim advice dated August 2020 notes evidence of mild harms among children included in studies of medical masks in infection settings other than COVID-19 (for example, warmth, discomfort, distraction, poor mask fit).

Acceptability to relevant stakeholders

- There is a wide variety of stakeholders, from children themselves to any person involved in supervising children, and to society overall. It is difficult to gauge opinion on the acceptability of face masks for children from the literature, particularly with respect to the Irish setting and given changing public opinion throughout the pandemic.

Feasibility of a mask requirement or recommendation for children

- Feasibility concerns include the availability of appropriate face masks, issues surrounding the practicality of young children wearing face masks, and the need to consider supports.

- It may be expected that young children will require assistance in wearing masks correctly, and both children and those supervising them may require support in the forms of supplies of masks, information, or reassurance where appropriate.

Contextual factors

- There is a need to consider whether any advice should be adaptable to the context for use. For example, advice may be considered applicable only to a particular age-group or child cohort, to particular settings, or may be subject to levels of community transmission or levels of ventilation or other mitigation factors in place.

International guidance

- With respect to mask use for children, the ECDC currently does not recommend the use of masks for pupils in primary schools, while the CDC recommends mask use in children aged two years and older, including in childcare, school, group activities and most sport settings. The WHO advises a ‘risk-based approach’ with respect to mask use for children aged between six and eleven years, considering a variety of influential factors.
Practice in all EU/EEA countries, the UK, Switzerland, USA and Canada was considered and is seen to vary considerably. The age at which masks are required or recommended in children ranges from 2-16 years. The median age at which a requirement or recommendation applies is seven years.

For locations other than schools, recommendations or rules regarding where masks should be worn were found to be the same for adults and children. Of 37 countries reviewed, masks are required in public places in 34 of 37 countries, are recommended in two of 37 (in Norway only where symptomatic) and are not required in one (Sweden). Masks are required on public transport in 35 of 37 countries, are recommended in Norway, and are recommended at set times in Sweden.

Several countries have more relaxed requirements for schools than their requirements for the general population. Wide variability exists with respect to exemption of mask requirements for particular school classes and with respect to the type of mask or face covering recommended.

Broadly, there is a recognition of the need to weigh the potential benefit of mask use against the potential harms. Issues around mask fit and tolerance for prolonged use by younger children have been recognised by the CDC, WHO and ECDC, including with reference to their potential impact on effectiveness.

Recent general changes in mask recommendations internationally have included consideration of mask specification, with increased recommendation in some countries of medical masks or masks capable of high levels of filtration, including for use within some school settings.

Levels of community transmission as well as caution in relation to variants of concern have been cited as grounds for tightening of practice, for example, in Austria, France, and Germany.

As several countries have recently begun to re-open schools, measures are subject to change amid upcoming review.

**COVID-19 Expert Advisory Group**

A meeting of the COVID-19 Expert Advisory Group (EAG) was convened to assess the policy question in light of the above key considerations.
Following presentations on the above issues, a representative of the National Parents Council, the representative organisation for parents of children in primary or early education, was invited to address the EAG with respect to the policy question. The following points were noted by this representative:

- There have been few calls from parents in favour of the use of face masks in primary school children, despite the occurrence of outbreaks in schools in the second wave of COVID-19 in Ireland. However, there have been suggestions from a small number of parents that face masks may be considered appropriate for school transport, due to a perceived lack of adherence to guidelines. Some parents have noted that certain primary schools are aiming to implement mask requirements or recommendations despite the lack of a government or HSE policy in favour of mask use in this age group, and have expressed their concern about such actions.

- There are concerns regarding the effectiveness of face mask use in reducing the spread of COVID-19 in young children. Furthermore, guidance issued previously by public health authorities in Ireland suggested that masks are inappropriate for children given their reduced ability to follow instructions on how to correctly use a mask. For young children to adopt mask use, parents would need to be assured that there is new evidence to address these issues.

- Children have been out of school for a long period of time and their educational, social and emotional development has been impacted. This has had an effect on their social skills and social confidence. Additional measures which may increase anxiety should be avoided.

- With respect to a mask requirement in the primary school setting, it is not always easy to identify children who may be particularly vulnerable to the potential harms of face mask use, for example, children with poorer oral literacy skills. Certain children who do not have a formal diagnosis of having additional needs may not necessarily be considered as exempted from a mask requirement, and may experience adverse consequences as a result.

- A preference was expressed for further exploring all alternative mitigation approaches in the school setting, for example, improved ventilation, which may be more impactful.

The COVID-19 EAG went on to discuss the findings of the presentations, and considered the following aspects:
The clinical course of COVID-19 in children was clarified. It was acknowledged that, while the majority of children experience a mild clinical course following infection with SARS-CoV-2, a small number of children experience severe illness. Such children predominantly include those with significant underlying conditions. A small number of children have also been hospitalised with paediatric multisystem inflammatory syndrome (PIMS) associated with COVID-19.

There is much uncertainty regarding the impact of SARS-CoV-2 variants of concern on transmission among children. Reported increased transmissibility of variants such as B.1.1.7 is likely to result in increased spread among children, including among returning primary school pupils, as the variant itself is more transmissible, though definitive evidence for this is as yet lacking. However, there is no evidence that children are disproportionately affected by lineage B.1.1.7 when compared with the population as a whole. The EAG agreed that any decision around mask use should be kept under regular review in light of the new variants, with communication to the public that recommendations may be changed in light of changing transmission evidence. It was acknowledged, however, that there is a risk that outbreaks may pose a threat to the feasibility of schools remaining open.

The importance of on-site schooling to the educational, social and emotional development of children was agreed by all. The well-recognised detrimental effects of school closure on children highlight the importance of ensuring that schools remain open, and the importance of interventions that enable this. Furthermore, the importance of public confidence in the safety of schools was stressed. Concerns were expressed that there may be a loss of confidence if schools were to reopen with unchanged guidance and if outbreaks were then to occur.

A small number of children have not attended school due to the fact that members of their household are medically vulnerable to COVID-19 and their families are anxious about the risk of transmission. In these circumstances, parents may feel more confident regarding their children attending school if the children in the class are wearing masks. Similarly, the anxiety experienced by teachers and others working directly with children may be lessened. Conversely, it was stated that recommendations should be underpinned by appropriate evidence. Furthermore, the effectiveness of masks should not be overstated lest individuals are led to believe they are fully protected when they in fact remain vulnerable.
There was clear agreement on the importance of the current approach of layering measures to reduce the risk of transmission in schools. There should be ongoing communication to emphasise the importance of the use of multiple mitigation strategies, each performed correctly (including hand hygiene, respiratory etiquette, physical distancing in school, on school grounds and travelling to and from school, ventilation, use of pods, not attending with symptoms of COVID-19, and adhering to other IPC measures as recommended in public health guidance for school settings). There should be clear understanding that no one particular measure is a solution; measures must be used together to be effective.

Similarly, it was recommended that the wider aspects of school-going be considered within guidance for schools and members of the public. This is due to data suggesting that classrooms are a low-risk environment, which has been attributed to the controlled nature of classroom settings. In contrast, other settings, such as school travel or transport and break time social mixing, have been associated with higher risks for transmission.

Communication campaigns that use stories to explain the risk in different settings, similar to those used successfully to highlight the spread of infection in adult populations, should be considered for primary school populations.

It was agreed that, given the challenges in assessing the effects of public health measures on transmission, the evidence base underlying face mask use, particularly in children, is imperfect. It was considered that, while the expected benefit of face mask use in young children is likely small in effect (which may, in part, be due to reduced ability to comply with face mask wearing), there is uncertainty regarding potential increases in transmission of the B.1.1.7 variant. Therefore, measures previously employed in schools to successfully mitigate the spread of SARS-CoV-2 may now be insufficient.

To permit a requirement or recommendation for widespread use, the balance of benefits and harms needs to be favourable. This balance may be influenced by a context of increased risks of transmission.

It was acknowledged that there is also uncertainty regarding the potential harms associated with face mask use. Potential harms noted by several members of the EAG included the potential for anxiety or negative impacts on the development of communication and language skills, particularly in younger children.
Given the acknowledged barriers to safe and effective face mask use in very young children, there was discussion among several members of the EAG regarding the potential for a general recommendation for face mask use specific to children from age 11 or older or pupils in 5th and 6th classes in primary school. Children of this age-group were perceived to have the ability to use face masks appropriately and without assistance, and it was considered that such children may feel empowered by being able to adopt this intervention. Also, such a recommendation would bring Ireland’s guidance more in line with that in place in many European countries and in the US and Canada. Furthermore, adoption would be in keeping with the precautionary principle. However, some members of the EAG suggested that it may prove confusing for children and households where 5th and 6th classes in primary schools require the use of face masks but more junior classes do not. Furthermore, concerns were expressed regarding the potential for confusion in other settings, for example, public transport and in retail settings.

The possibility for a recommendation suggesting voluntary face mask usage (as opposed to required usage) in the primary school setting was also discussed. However, it was acknowledged that this would likely decrease uptake of mask use, as pupils are subject to influence by their peers, who may dismiss a protective intervention.

It was noted that the current guidance in place does not intend to advise against the use of face mask use in children aged under 13, but rather intends to state that face mask usage is not required in this group. Communication of this message may be unclear at present.

Advice

Arising from the findings above, HIQA's advice to the National Public Health Emergency Team is as follows:

- To date, with respect to SARS-CoV-2, the burden of disease and the extent of transmission between children or onwards to households by children, has been low. Success in minimising the transmission of SARS-CoV-2 within the school environment has been due to the implementation and adherence to layered mitigation measures by school communities, and the use of robust Public Health Risk Assessment by Public Health teams to guide the prevention and management of outbreaks.
- It is unknown whether variants of concern, which are associated with increased transmissibility, will alter the present context of successful mitigation of the spread of SARS-CoV-2 within school settings.
- The current guidance with respect to mask use in children does not preclude children from wearing masks. Parents and children may choose that a child wear a mask on the basis of their individual assessment of the benefits and harms.
- Overall, the totality of the evidence base points towards a reduction in SARS-CoV-2 transmission associated with mask use. However, the evidence base with respect to children is limited. Mask use effectiveness appears to be reduced in younger age groups, which may, in part, be due to reduced ability to comply with face mask wearing.
- There is concern regarding the potential harms associated with face mask use, for example, anxiety or negative impacts on the development of communication and language skills, particularly for younger children.
- Given consideration of the evidence and the concerns raised, no consensus was reached to support a change at the present time (3 March 2021) in the minimum age for requirements and recommendations with respect to mask use in the community.
- Consensus was achieved on the following issues:
  - The importance of schools remaining open; on-site schooling is viewed as essential to meet the educational, social, and emotional development and well-being needs of children.
  - The need to clearly communicate to school communities that while the classroom represents a controlled, low-risk environment for the transmission of SARS-CoV-2, there may be greater potential for transmission associated with other aspects of the school-going experience, for example, transport or break times.
  - The need to maintain high levels of adherence to the current layered public health measures by all those involved across the whole school-going experience. These include physical distancing, both within schools, on schools grounds and travelling to and from schools, hand hygiene, cough etiquette, increased ventilation, and not attending with symptoms of COVID-19.
- Given the emerging evidence regarding the importance of variants of concern to community-level transmission, this advice should be kept under review and should be informed by national and international surveillance data and relevant evidence from the literature. It should be clearly communicated to the public that evolving evidence regarding transmission may result in changes to the current recommendations.