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# ANTI MUIL KORF

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# PRODUKTIE 1

arno. 210733

Griffie der Kantongerechten

Kantonrechter in Kort geding

A.R. no. 210733
24 maart 2021

Vonnis in de zaak van

A. DONK, KAREL, wonende aan de Powisistraat no. 175 te Paramaribo,
B. STUTGARD, RICKY, wonende aan de Harpalstraat no. 23 te Paramaribo,
procederend in persoon,
eisers in kort geding,

tegen

DE STAAT SURINAME, rechtspersoon, met name het Ministerie van Volksgezondheid, ten deze vertegenwoordigd door de Procureur-Generaal bij het Hof van Justitie, gevestigd en kantoorhoudende aan de Limesgracht 92 te Paramaribo,
gemachtigden: mr. C.B. Lachman en mr. M. Babulall, advocaten,
gedaagde in kort geding.

## 1. Het proces verloop:

1.1. Dit blijkt uit de volgende processtukken:
- het verzoekschrift, met producties, dat op 9 maart 2021 ter griffie der kantongerechten is ingediend,
- de conclusie van eis d.d. 11 maart 2021,
- de mondelinge conclusie van antwoord, met producties, aangetekend in het proces-verbaal van de zitting van 11 maart 2021;
- de conclusie van repliek, met producties,
- de conclusie van dupliek, met producties,
- de conclusie tot uitlating producties zijdens eisers.

1.2 De uitspraak van het vonnis in kort geding is bepaald op heden.

## 2. De feiten

2.1 Ingevolge de Wet van 7 augustus 2020 houdende algemene regels in verband met de uitvoering van een burgerlijke uitzonderingstoestand afgekondigd ingevolge artikel 23 jo 72 onder c van de Grondwet (SB 2020 no. 151), genoemd de Wet Uitvoering Burgerlijke Uitzonderingstoestand, zijn bij Presidentieel besluit van 25 juli 2020 (SB 2020 no. 143 / PB 16/2020) een aantal maatregelen vastgesteld.

2.2 Artikel 1 van het Presidentieel besluit luidt alsvolgt:
"Vanaf 26 juli 2020 tot nader orde worden de volgende maatregelen voor een ieder verplicht gesteld:
a. het dragen van een mond- en neusbedekking;
b. het aanhouden van 1,5 meter fysieke afstand, de zogeheten Covid afstand en
c. het regelmatig desinfecteren van de handen. "

2.3 Naar de effectiviteit en de gevolgen van het dragen van een mond- en neusbedekking is door verschillende instanties onderzoek gedaan.

## 3. De vordering en de grondslag daarvan

### 3.1 De vordering

Eisers vorderen, kort gezegd, dat de kantonrechter, bij vonnis in kort geding, uitvoerbaar bij voorraad:

Primair:

- De maatregelen voortvloeiende uit de Wet Uitvoering Burgerlijke Uitzonderingstoestand, welke omstreeks juni 2020 in werking is getreden, waarbij het dragen van een mond- en neusbedekking c.q. mondkapje voor burgers van Suriname verplicht is gesteld om verspreiding van Covid-19 tegen te gaan, opschort totdat deze middels een definitieve voorziening zal zijn opgeheven;

Subsidiair:

- De gedaagde veroordeelt om naast het aanbevelen van mondkapjes de bevolking omstandig te informeren over het bestaan van wetenschappelijk bewijs dat mondkapjes medisch niet effectief zijn en dat zij integendeel zelfs schadelijk zijn voor de gezondheid, en voorts

Primair en subsidiair:

- Gedaagde veroordeelt in de proceskosten.

### 3.2 De grondslag

Eisers hebben als grondslag voor het gevorderde vier gronden aangevoerd:

1. Het dragen van een mond- en neuskap draagt niet bij aan het tegengaan van de gevolgen van Covid-19

Het verplicht voorschrijven van het dragen van mond- en neusbedekking draagt niet bij aan het tegengaan van de gevolgen van Covid-19. Er bestaat geen enkel serieus bewijs dat mond- en neuskapjes helpen.

Op basis van veertig jaar wetenschappelijk onderzoek is er onvoldoende bewijs dat mond- en neuskapjes effectief zijn in het voorkomen van de verspreiding van virussen zoals het Covid-19 virus.

Eisers verwijzen naar de resultaten van de onderzoekers Ha'eri en Wiley uit 1980, onderzoekers van de Universiteit van Minnesota van oktober 2020, onderzoeken naar de effectiviteit van het dragen van maskers in de operatiekamer van 11 verschillende onderzoeksteams, van de onderzoekers van MacIntyre et al., van de Amerikaanse CDC, van de Deense RCT, van Oostenrijkse wetenschappers, van wetenschappers in de Amerikaanse staat Kansas, van professor dr. I. Kappstein van het Robert Koch Instituut, van professor Sarah Lebeer aan de Universiteit van Antwerpen, een onderzoek aan de Faculteit der Technologische Wetenschappen in Suriname, van Fikenzer et al. van juni 2020, van Yanis Roussel et al. en van de WHO zelf van onder andere juni 2020.

In meerdere rechtzaken in Nederland is door de rechter geoordeeld dat het nut van het dragen van mondkapjes beperkt en omstreden is.

2. Het dragen van mond- en neusbedekking is juist aantoonbaar schadelijk voor de gezondheid van burgers zowel fysiek als psychisch

Er is bij het dragen van een mond- en neuskap een risico op een toename van infecties van virussen, bacteriën en schimmels door langdurig en niet hygiënisch gebruik van mondkapjes, ook kunnen er allerlei andere negatieve gezondheidseffecten optreden. Voorts kan bij langdurig dragen van mondkapjes door burgers blijvende schade worden veroorzaakt. Het is niet

rechtvaardig om zo verregaand in te grijpen in de grondrechten van burgers door ze te verplichten om een mondkapje te dragen terwijl het dragen schadelijk is en niet helpt. Gedaagde heeft zich niet gehouden aan het zorgvuldigheidsbeginsel bij de besluitvorming welke geleid heeft tot het verplichten van mondkapjes.

3. De verplichting om mond- en neusbedekking te dragen is in strijd met fundamentele mensenrechten zoals opgenomen in de Grondwet en Verdragen

Het verplichten tot het dragen van mond- en neusbedekking staat op gespannen voet met verschillende grondrechten zoals opgenomen in de Grondwet en Verdragen. De verplichting tot het dragen van een mond- en neusbedekking druist in tegen het universele grondrecht van de eerbiediging van de persoonlijke levenssfeer zoals geformuleerd in artikel 16 leden 1 en 2 en artikel 17 lid 1 van de Grondwet en artikel 8 van het EVRM.

Ook is er sprake van een onrechtmatige inbreuk op het recht op leven, welk recht in artikel 14 van de Grondwet is opgenomen. De schade welke op verschillende manieren aangericht wordt aan de gezondheid van burgers door het verplicht dragen van mond- en neusbedekking tast de kwaliteit van het leven van personen aan en kan hun leven potentieel zelfs in gevaar brengen. Burgers worden gedwongen om hun gezondheid en hun leven potentieel in gevaar te brengen.

Het staat niet ter discussie dat gedaagde een belangrijke taak heeft bij de bestrijding van infectieziekten zoals Covid-19. Echter kunnen fundamentele grondrechten niet zonder meer worden ingeperkt door gedaagde. Het verplicht stellen tot het dragen van een mond- en neusbedekking is een ernstige inperking van fundamentele grondrechten. Inbreuk op grondrechten zou slechts gerechtvaardigd zijn als vaststaat dat een dergelijke inbreuk bij wet geregeld is, een legitiem doel dient, strikt noodzakelijk, proportioneel en effectief is en niet schadelijk is voor de gezondheid.

4. Er is sprake van misleiding van de samenleving

Het doel van de mondkapjesmaatregel is om de bevolking wereldwijd psychologisch te manipuleren. Men probeert opzettelijk een klimaat van continu gevaar te creëren om de bevolking angst in te boezemen, zodat de bevolking makkelijk instemt met zelfs de meest draconische maatregelen, maatregelen die thuishoren in een politiestaat. Dat verklaart ook waarom de bevolking vanaf het begin wordt overspoeld met dagelijkse berichten over het aantal Covid-19 besmettingen en doden terwijl het al vroeg duidelijk was dat het Covid-19 virus niet gevaarlijker bleek te zijn dan andere virussen in omloop. Gelijktijdig met de angst campagne vanuit de staat en de media werd elk tegengeluid wereldwijd zwaar gecensureerd, niet alleen in de reguliere media maar ook op social media. Ook in wetenschappelijke kringen werd er gecensureerd. Onder het voorwendsel van de pandemie hebben autoriteiten in sommige landen hardhandig gereageerd met veiligheidsmaatregelen en noodmaatregelen om afwijkende meningen de kop in te drukken, onafhankelijke verslaggeving het zwijgen op te leggen en activiteiten van niet-gouvernementele organisaties te beperken.

Het voorgaande geldt ook voor Suriname. Het is gedaagde samen met de media gelukt om een grimmig klimaat te scheppen waar er een constante angst heerst hetgeen door de maatregelen van gedaagde langzaam verergerd wordt.

De gedaagde heeft in strijd met artikel 7 lid 1 van de Wet Uitvoering Burgerlijke Uitzonderingstoestand de bevolking misleid door de burgers de indruk te geven dat het dragen van mondkapjes medisch effectief is terwijl er overweldigend wetenschappelijk bewijs is dat

mondkapjes medisch niet effectief zijn tegen de verspreiding van Covid-19 en zelfs schadelijk zijn voor de gezondheid. Hierdoor handelt de gedaagde onrechtmatig.

Het spoedeisend belang
Er is een spoedeisend belang. Een groot deel van de bevolking loopt als gevolg van de mondkapjes plicht het risico om daarvan grote en blijvende schade te ondervinden. Een onmiddellijke voorziening bij voorraad om een einde te maken aan het in gevaar brengen van de bevolking door gedaagde c.q. het onrechtmatig handelen van gedaagde tegen de bevolking is daarom dringend noodzakelijk.

## 4. Het verweer

Gedaagde heeft verweer gevoerd op welk verweer de kantonrechter, voor zover van belang, hierna terugkomt.

## 5. De Beoordeling

5.1 Gedaagde heeft als verweer onder andere het volgende aangevoerd: **1.** dat eisers geen belang hebben bij de vordering; zij stellen dat er fundamentele rechten geschonden zijn, echter heeft de Staat ingevolge artikel 23 van de Grondwet in verband met de Covid-19 pandemie de Wet Uitvoering Burgerlijke Uitzonderingstoestand uitgevaardigd waardoor de maatregelen wel getroffen hadden mogen worden; door gedaagde is ingesteld het Outbreak Management Team, bestaande uit medische experts en public health deskundigen; dit Outbreak Management Team geeft op basis van de geldende wetenschappelijke inzichten van onder andere de WHO, de Carfa en de CDC, adviezen aan de regering ter indamming en controle van de Covid-19 pandemie; **2.** dat eisers geen spoedeisend belang hebben; de maatregelen dateren van augustus 2020; thans zijn wij zeven maanden verder waardoor niet kan worden gesteld dat er een spoedeisend belang is; immers, dan zouden de eisers eerder de vordering ingediend moeten hebben; **3.** dat het niet uit de stellingen van eisers is gebleken dat het dragen van een mondkap nadelig is voor de gezondheid van de burgers en dat er geen gevallen bekend zijn in de Surinaamse samenleving waarbij burgers het door eisers genoemde gezondheidsnadeel hebben ondervonden van het dragen van een mondkap; dat aan die stelling dan ook voorbij gegaan moet worden; **4.** dat het niet juist is dat uit onderzoek is gebleken dat mondkapjes nadelig zijn voor de gezondheid van de burgers; het onderzoek door de eisers aangehaald uit Denemarken is bekend; ook is bekend dat dat onderzoek is gedaan onder 0,1 % van de populatie waardoor het niet representatief is; het bedoelde onderzoek wordt internationaal gekwalificeerd als niet-doorslaggevend; **5.** dat de onderzoeken door de eisers aangevoerd dateren van lang voor de Covid-19 pandemie en derhalve geen onderzoeken zijn die in verband met de pandemie zijn uitgevoerd of in verband gebracht kunnen worden met de pandemie; **6.** dat uit een onderzoek van de International Journal of Environmental Research and Public Health van 11 augustus 2020, overgelegd door gedaagde, is gebleken dat bij gezonde personen, personen zonder luchtwegklachten, het opzetten van een masker voor langere tijd zelfs, geen veranderingen laat zien in de zuurstof- en koodioxide concentratie en tevens dat het opzetten van een masker geen effect heeft op het volume per inademing en op de ademhalingssnelheid; er is een lichte stijging van drie procent in de ademweerstand gezien, doch zonder verdere gezondheidsnadelen; ook is melding gemaakt van een negatieve impact van het dragen van maskers met name bij personen met een voorgeschiedenis van hoofdpijn; bij hun bleek dat bij het lang opzetten van een masker hoofdpijn optreedt; de onderzoekers stelden echter dat de voordelen met betrekking tot de besmettingsreductie en daaraan gekoppeld de infectie-complicaties en mortaliteit, vele malen groter waren dan het ongemak van hoofdpijn; **7.** dat een toenemend aantal onderzoeken heeft uitgewezen dat het universeel beleid voor het dragen van maskers in verband kan worden gebracht met een vermindering van het aantal en het percentage van infecties en sterfgevallen; in deze onderzoeken wordt geen

onderscheid gemaakt tussen de soorten maskers, stof, chirurgisch of N95 die in de gemeenschap worden gebruikt; deze associatie wordt verstrekt om dat in veel gevallen andere mitigatie strategieën zoals bijvoorbeeld sluiting van scholen en werkplekken, aanbevelingen voor sociale afstand en handhygiëne al waren toegepast voordat het beleid voor het dragen van maskers werd ingevoerd waarna de verminderingen werden waargenomen; een studie waarin de veranderingen en toenames in percentages in 15 staten in Amerika voor en na maskerplicht werden onderzocht toonden aan dat de infecties toenamen voordat de maskerplicht was ingevoerd en daarna aanzienlijk verminderden toen de maskerplicht kwam en verminderden naarmate de maskerplicht langer van kracht was; **8.** dat uit de door gedaagde overgelegde onderzoeksrapporten en publicaties blijkt dat het dragen van mondmaskers wel effectief is bij het tegengaan van de spreiding van Covid-19, en daardoor bij het tegengaan van complicaties en mortaliteit en geen nadelig effect heeft op de gezondheid van dragers.

5.2 Eisers hebben gereageerd op het verweer van gedaagde en hebben daarbij onder andere het volgende aangevoerd: **1.** dat zij wel een belang hebben en ook een spoedeisend belang omdat de gezondheid van de burgers in het geding is; **2.** dat gedaagde de stellingen dat het dragen van mondkapjes niet effectief is en nadelig is voor de gezondheid, niet heeft weersproken; **3.** dat gedaagde slechts heeft verwezen naar de Wet betreffende de uitzonderingstoestand terwijl er fundamentele rechten geschonden worden; ook heeft een ieder het recht op gezondheid ingevolge artikel 36 lid 1 en 2, waardoor de maatregel die nadelig is voor de gezondheid niet kan worden getolereerd; **4.** dat er inderdaad in Suriname geen gegevens zijn over het nadelig effect van de mondkapjes op de gezondheid van burgers doch dat daardoor juist de vraag gesteld kan worden waarom een maatregel wordt opgelegd waarvan de effecten niet duidelijk zijn; dat geldt temeer nu er studies zijn gedaan in het buitenland waaruit het gezondheidsnadeel blijkt; eisers verwijzen daarbij nogmaals naar het onderzoek van MacIntyre et al. uit 2015; ook is uit de onderzoeken het risico op virale en bacteriële infecties gebleken en het risico op gezondheidsschade als gevolg van zuurstofgebrek of een kooldioxide-vergiftiging; **5.** dat zij erbij blijven dat er maatregelen zijn doorgevoerd zonder dat de effectiviteit ervan is bewezen en zonder dat het korte- en lange termijn effect op de gezondheid voldoende bekend is; **6.** dat het enkele feit dat enkele van de door hun aangehaalde wetenschappelijke studies van vóór de Covid-19 periode dateren, nog niet met zich meebrengt dat deze niet kunnen worden gebruikt voor het beleid van 2021; wereldwijd wordt dagelijks gebruik gemaakt van oudere wetenschappelijke studies; **7.** dat het onderzoek van Denemarken wel representatief is; er hebben zesduizend personen aan meegedaan en de studie betrof een RCT studie; RCT studies worden beschouwd als de gouden standaard voor klinisch onderzoek; de overgelegde producties van gedaagde worden niet alszodanig beschouwd; de conclusies uit het kapsalon onderzoek waar 139 personen aan meededen zou dan ook als kleinschalig moeten worden aangemerkt; **8.** dat ook het onderzoek op de USS Theodore Roosevelt niet kan worden gebruikt voor het maken van beleid omdat daar 382 personen aan hebben deelgenomen die en grotere kans op blootstelling hadden en alle informatie was gebaseerd op zelfrapportage; in dat onderzoek waren verschillende interventies gelijktijdig doorgevoerd waardoor het niet mogelijk is om te concluderen welke interventie heeft geleid tot het resultaat; **9.** dat het door de gedaagde genoemde resultaat van een verhoging van 3% ademhalingsweerstand afkomstig is uit een onderzoek met een computersimulatie; uit een onderzoek onder proefpersonen gedaan door Fikenzer et al. in juni 2020 bleek dat er wel aanzienlijke negatieve effecten optreden bij het dragen van een masker; **10.** dat het gebruik van computersimulaties ook in het begin van de pandemie hebben geleid tot verregaande maatregelen omdat met een computersimulatie was voorspeld dat er miljoenen doden zouden vallen; de voorspelling bleek niet lang daarna totaal verkeerd te zijn en niet in overeenstemming met de realiteit; **11.** dat gedaagde de maatregelen verplicht stelt doch daar zelf niet in gelooft

omdat regeringsleiders de maatregelen zelf niet naleven; zij verwijzen daarbij naar een aantal keren dat regeringsleiders zich niet aan de mondkapjesplicht hielden.

5.3 De kantonrechter overweegt met betrekking tot het belang en het spoedeisend belang dat eisers voldoende aannemelijk hebben gemaakt dat zij een spoedeisend belang hebben. Zij stellen zich onder andere op het standpunt dat de verplichting tot het dragen van mond- en neuskapjes nadelig is voor de gezondheid en dat het stellen van die verplichting in strijd is met grondrechten van de burgers. Die grondslag brengt met zich mee dat het een zaak is die spoedeisend is en waarvoor een voorziening bij voorraad gevorderd zou moeten kunnen worden, ongeacht het feit dat de verplichting reeds geruime tijd bestaat. De kantonrechter gaat daarom voorbij aan het desbetreffende verweer van gedaagde.

5.4 De kantonrechter overweegt dat de vraag die partijen verdeeld houdt de vraag betreft of er gronden zijn om de verplichting om een mond- en neusbedekking te dragen op te schorten. In hun grondslag noemen eisers – kort weergegeven - een viertal gronden namelijk:

1. Het dragen van een mond- en neuskap draagt niet bij aan het tegengaan van de gevolgen van Covid-19; er is onvoldoende bewijs dat het effectief is;

2. Het dragen van een mond- en neuskap is aantoonbaar schadelijk voor de gezondheid van burgers zowel fysiek als psychisch;

3. De verplichting om een mond- en neuskap te dragen is in strijd met fundamentele mensenrechten zoals opgenomen in de Grondwet en Verdragen

4. Gedaagde misleidt de samenleving door de burgers de indruk te geven dat het dragen van mond- en neuskapjes medisch effectief is terwijl wetenschappelijk bewezen is dat dat niet het geval is en het dragen van mond- en neuskapjes zelfs schadelijk is voor de gezondheid. De gedaagde handelt hierdoor onrechtmatig jegens haar burgers.

5.5.1 De kantonrechter stelt voorop dat het betreft een verplichting die bij Wet is opgelegd, zoals hierboven onder de feiten opgenomen, en wel in het uitvoeringsbesluit van de Wet van 7 augustus 2020 houdende algemene regels in verband met de uitvoering van een burgerlijke uitzonderingstoestand afgekondigd ingevolge artikel 23 jo 72 onder c van de Grondwet (SB 2020 no. 151).
Het betreft het Presidentieel besluit van 25 juli 2020 (SB 2020 no. 143 / PB 16/2020).

5.5.2 De kantonrechter acht het van belang allereerst de artikelen van de Grondwet te bespreken die relevant zijn voor de beoordeling van dit geschil.

5.5.3 Ingevolge artikel 80 lid 2 van de Grondwet zijn alle wetten onschendbaar, behoudens het bepaalde in de artikelen 106, 137 en 144 lid 2. In dit verband is een verwijzing naar de Wet Algemene Bepalingen (SB 1945 no. 112) ook van belang, met name artikel 12 waarin is bepaald: "De rechter moet volgens de wettelijke bepalingen rechtspreken; hij mag in geen geval hare innerlijke waarde of billijkheid beoordelen."

5.5.4 Ingevolge artikel 70 van de Grondwet is het vaststellen van wetten in formele zin opgedragen aan de Nationale Assemblee en de Regering gezamenlijk.

5.5.5 De Grondwetgever heeft met artikel 80 de toetsingsbevoegdheid van de rechter, om wetten te toetsen, afgebakend. Buiten het kader van de Grondwetsbepalingen heeft de rechter

geen bevoegdheid om de innerlijke waarde van een wet te toetsen. In artikel 80 zijn de bepalingen genoemd die een uitzondering vormen op bedoelde onschendbaarheid. Het betreft, zoals hiervoor reeds genoemd, de artikelen 106, 137 en 144 lid 2 van de Grondwet. In artikel 106 van de Grondwet is bepaald dat binnen de Republiek Suriname geldende wettelijke bepalingen geen toepassing vinden, wanneer deze toepassing niet verenigbaar zou zijn met een ieder verbindende bepalingen van overeenkomsten, die hetzij voor, hetzij na de totstandkoming van de voorschriften zijn aangegaan. In artikel 137 van de Grondwet is bepaald dat voor zover de rechter in een concreet aan hem voorgelegd geval toepassing van een bepaling van een wet strijdig oordeelt met één of meer der in hoofdstuk 5 genoemde grondrechten, de rechter die toepassing ongeoorloofd verklaart. In artikel 144 lid 2 van de Grondwet komt de bevoegdheid van het Constitutioneel Hof aan de orde. (vide tevens het vonnis van de kantonrechter in het eerste kanton d.d. 28 maart 2019; SRU-K1-2019-4)

5.6 De kantonrechter overweegt dat de vordering van eisers zo begrepen moet worden dat zij vorderen dat de bepaling met betrekking tot de verplichting van de mond- en neuskapjes wordt geschorst totdat door de rechter in een bodemprocedure of het Constitutioneel Hof een oordeel is gegeven over de vraag of de bepaling strijdig is met een ieder verbindende bepalingen van een verdrag of één of meer der in hoofdstuk 5 van de Grondwet genoemde grondrechten. Zij stellen als grondslag voorts dat inbreuk op grondrechten slechts gerechtvaardigd zou zijn als vaststaat dat een dergelijke inbreuk bij wet geregeld is, een legitiem doel dient, strikt noodzakelijk, proportioneel en effectief is en niet schadelijk is voor de gezondheid.

5.7 Eisers beroepen zich in hun grondslag op strijdigheid met de volgende grondrechten:

- het grondrecht van de eerbiediging van de persoonlijke levenssfeer zoals geformuleerd in artikel 16 leden 1 en 2 en artikel 17 lid 1 van de Grondwet;
- het grondrecht opgenomen in artikel 9 lid 1 van de Grondwet, het zelfbeschikkingsrecht, het recht van een ieder op fysieke, psychische en morele integriteit;
- het grondrecht opgenomen in artikel 14 van de Grondwet, namelijk het recht op leven.

5.8 Gedaagde heeft in haar verweer op dit verwijt aangevoerd dat artikel 23 van de Grondwet de gedaagde de bevoegdheid geeft om in geval van – onder andere – een uitzonderingstoestand de in de Grondwet genoemde grondrechten bij wet te onderwerpen aan beperkingen. De gedaagde stelt dat er sprake is van een uitzonderingstoestand omdat er een pandemie heerst die de volksgezondheid ernstig in gevaar brengt. Op 7 augustus 2020 is de Wet Uitvoering Burgerlijke Uitzonderingstoestand vastgesteld in verband met de bescherming van de volksgezondheid, de economie en de algemene veiligheid van burgers. De maatregelen waar eisers op doelen zijn enigszins beperkend, doch moesten getroffen worden in het belang van de volksgezondheid.

5.9 Eisers hebben op dat verweer gereageerd waarbij zij aanvoerden dat een ieder recht heeft op gezondheid en dat een beperking van de gezondheid van de burger niet kan worden toegestaan. Zij zijn verder gebleven bij hun stellingen dat het gebruik van mond- en neuskapjes niet effectief is en schadelijk is voor de gezondheid.

5.10 Gedaagde heeft met betrekking tot de effectiviteit van de maatregel en door eisers genoemde nadelige gevolgen voor de gezondheid aangevoerd dat de maatregel wel effectief is en dat het niet juist is dat het dragen van mondkapjes zodanige nadelige gevolgen heeft voor de gezondheid dat de maatregel daarom niet genomen had mogen worden.

5.11 Beide partijen hebben producties overgelegd om hun respectieve stellingen te onderbouwen.

5.12.1 De kantonrechter overweegt dat voor de beoordeling van het geschil, naast de hiervoor besproken Grondwetsartikelen, tevens de rechtspraak van belang is. In casu is er immers sprake van dat gedaagde gebruik maakt van haar bevoegdheid ingevolge artikel 23 van de Grondwet doch stellen eisers dat gedaagde dat op een wijze doet die ongeoorloofd is. Het toetsingskader dat in de Nederlandse rechtspraak gehanteerd is, en voor de Surinaamse rechtspraktijk ook een goed toetsingskader vormt, is onder andere te vinden in de hierna volgende uitspraak van het Gerechtshof Den Haag. Het Hof heeft daarin geoordeeld over een vordering in verband met een maatregel die bij wet was opgelegd in verband met de Covid-19 pandemie.

5.12.2 Het betreft een uitspraak van het Gerechtshof Den Haag van 26 februari 2021 (ECLI:NL:GHDHA:2021:285) waarbij het Hof onder andere alsvolgt overwoog:

*"De vraag welke maatregelen moeten worden getroffen ter bestrijding van de coronacrisis en of die maatregelen proportioneel en subsidiair zijn vergt primair een politieke afweging. Dat die politieke afweging met betrekking tot de invoering van de avondklok ook heeft plaatsgevonden, blijkt zowel uit de toelichting bij de Voortduringswet als uit het besluit van het kabinet om voorafgaand aan het instellen van de avondklok de Tweede Kamer te raadplegen. De civiele rechter – en zeker de rechter in kort geding – moet zich daarom terughoudend opstellen bij de beoordeling van de keuzes die de Staat binnen de grenzen van zijn beoordelings- en beleidsvrijheid maakt. Alleen als evident is dat de Staat onjuiste keuzes maakt en de Staat dus in redelijkheid niet voor het gevoerde beleid heeft kunnen kiezen, of wanneer de Staat een bevoegdheid aanwendt zonder dat daarvoor in de gegeven omstandigheden een wettelijke grondslag bestaat, is plaats voor rechterlijk ingrijpen....."*

*" In deze procedure is de vraag aan de orde of er sprake is van buitengewone omstandigheden die invoering van de avondklok noodzakelijk maken.*
*6.7.*
*Het begrip buitengewone omstandigheden is in de wet of de wetsgeschiedenis .....niet gedefinieerd. Naar het oordeel van het hof is het zonder meer duidelijk dat er sprake is van buitengewone omstandigheden..... Ondanks vele (vaak vergaande) maatregelen is het Covid-19 virus nog steeds niet uitgedoofd en is dit aan het muteren in (veelal) nog besmettelijkere varianten. Het wachten is uiteindelijk op voldoende vaccinatiemogelijkheden, maar zover is het nu nog niet, terwijl bovendien onzeker is of de thans bestaande vaccins onverminderd werken bij de nieuwe varianten.*
*6.8.*
*Volgens de regering is de situatie zeer zorgelijk, omdat twee epidemiologische situaties zich naast elkaar ontwikkelen, te weten het 'oude' Covid-19 virus en de veel besmettelijkere buitenlandse varianten die naar verwachting de boventoon zullen gaan voeren. Alles op alles moet worden gezet om het aantal besmettingen zo laag mogelijk te houden en zo te voorkomen dat Nederland wordt overspoeld met een derde golf bovenop de tweede. De regering baseert zich hierbij op het OMT (met specifieke deskundigheid), dat in verband hiermee dringend adviseert tot invoering van de avondklok omdat geen gelijkwaardige alternatieven voorhanden zijn.*
*6.9.*
*Naar het oordeel van het hof mag het kabinet in beginsel op de adviezen van het OMT afgaan. Niet voor niets is dit orgaan verantwoordelijk voor het tot stand komen van het best mogelijke professionele advies over de te nemen crisismaatregelen.7 De omstandigheid dat niet exact gewogen kan worden in hoeverre de tevens dringend geadviseerde bezoekbeperking mede effect sorteert, maakt niet dat daarmee de noodzaak van de avondklok ontbreekt of is vervallen.*

*De Staat heeft voldoende onderbouwd dat de avondklok ook effect heeft, althans dat hij hier in redelijkheid van mag uitgaan.....".*
*"..... heeft nog gesteld dat het invoeren van de avondklok niet noodzakelijk is omdat het aantal besmettingen terugloopt, evenals de ziekenhuis- en IC-bezetting, terwijl het aantal besmettingen bovendien niet gelijk staat aan even zovele zieken en het om een 'vrij onschuldig' virus gaat. ..... miskent hiermee dat het OMT ondanks de verminderde druk op de zorg uitvoerig en wetenschappelijk onderbouwd heeft toegelicht dat verder ingrijpen noodzakelijk is, met name in verband met de toename van de nieuwe varianten. Dit ter voorkoming van het risico – dit is geen zekerheid en hoeft en kan ook geen zekerheid (te) zijn – van versneld oplopende ernstige besmettingen en daarmee (over)belasting van de zorg. De stelling dat de "donkere wolk" die door het OMT is geschetst "nog nooit regen heeft opgeleverd" is een miskenning van de feitelijke toestand waarin Nederland sinds ongeveer een jaar verkeert en waarvan het kabinet mag oordelen dat die zodanig is dat een verergering moet worden voorkomen....."*
*6.11.*
*"Al met al heeft de Staat daarom in redelijkheid kunnen oordelen dat er sprake was van buitengewone omstandigheden die invoering van de avondklok noodzakelijk maakten. .....*
*Uiteraard dienen de beginselen van proportionaliteit en subsidiariteit bij de daadwerkelijke inzet van de Wbbbg wel in acht te worden genomen. Het hof zal hierna deze aspecten toetsen.*

*Proportionaliteit en subsidiariteit*
*6.12.*
*Niet in geschil is dat met de invoering van de avondklok diverse grondrechten worden beperkt, die onder meer zijn verankerd in internationale verdragen. Het gaat daarbij om het recht op bewegingsvrijheid (artikel 2 Vierde Protocol EVRM), het recht op eerbiediging van de persoonlijke levenssfeer (artikel 8 EVRM en artikel 10 Grondwet - Gw) en indirect de vrijheid van vergadering, betoging en het belijden van godsdienst en levensovertuiging (artikel 9 en artikel 10 EVRM en artikel 6 en artikel 9 Gw).*
*6.13.*
*Deze grondrechten bieden ruimte voor een inperking daarvan (onder meer) als dat noodzakelijk is voor de bescherming van de volksgezondheid. De Staat is tot deze bescherming verplicht op grond van artikel 22 Gw en de artikelen 2 en 8 EVRM. Een dergelijke inperking is mogelijk voor zover deze (i) een legitiem doel dient, (ii) bij de wet is voorzien en (iii) noodzakelijk is in een democratische samenleving. In dat laatste criterium ligt besloten dat de inperking van de grondrechten proportioneel moet zijn en dat er geen andere (lichtere) middelen moeten zijn om het beoogde doel te verwezenlijken. De Staat heeft hierbij een grote beoordelingsvrijheid (a wide margin of appreciation).*
*6.14.*
*Vast staat dat de inperking (i) een legitiem doel dient en (ii) bij wet is voorzien. De Staat heeft aangevoerd (iii) dat de maatregel ook proportioneel is. .....*
*6.15.*
*Naar het oordeel van het hof is, gelet op de klemmende situatie waar de Staat blijkens het voorgaande vanuit mocht gaan, de maatregel van deze avondklok (iii) proportioneel en voldoet deze ook aan de eisen van subsidiariteit. Afwachten hoe de situatie zich ontwikkelt, .....heeft de Staat in redelijkheid niet willen en hoeven doen. ...."*

5.12.3 De kantonrechter acht op grond van de hiervoor genoemde wetgeving en rechtspraak het volgende kader van belang bij de beoordeling:

- er moet sprake zijn van buitengewone omstandigheden;
- de beginselen van proportionaliteit en subsidiariteit moeten in acht genomen worden bij het doorvoeren van maatregelen waarbij grondrechten worden beperkt;
- de civiele rechter, en zeker de rechter in kort geding, moet zich terughoudend opstellen bij de beoordeling van de keuzes die de gedaagde binnen de grenzen van zijn beoordelings- en beleidsvrijheid maakt, omdat de vraag welke maatregelen moeten worden getroffen ter bestrijding van de coronacrisis en of die maatregelen proportioneel en subsidiair zijn primair moet worden beantwoord door de regering en de wetgevende macht; alleen als het evident is dat de gedaagde bij het beperken van de grondrechten onjuiste keuzes maakt, dus in redelijkheid niet voor het gevoerde beleid heeft kunnen kiezen, is er plaats voor rechterlijk ingrijpen.

5.13 De kantonrechter overweegt dat er sprake is van buitengewone omstandigheden, evenals in de casus van het hiervoor bedoeld vonnis van het Hof. Daarom was gedaagde genoodzaakt de uitzonderingstoestand af te kondigen. Beoordeeld moet worden of de beginselen van proportionaliteit en subsidiariteit in acht zijn genomen en of er sprake is van een situatie waarbij gedaagde bij het beperken van de grondrechten onjuiste keuzes heeft gemaakt waarbij in redelijkheid niet voor het gevoerde beleid gekozen had kunnen worden.

5.14 De kantonrechter overweegt dat de stellingen van eisers hierop neerkomen dat gedaagde onjuiste keuzes heeft gemaakt. De twee gronden die zij daarbij aanvoeren staan in verband met de proportionaliteit. Zij stellen in hun grondslag dat inbreuk op grondrechten slechts gerechtvaardigd zou zijn als vaststaat dat een dergelijke inbreuk strikt noodzakelijk, proportioneel en effectief is en niet schadelijk is voor de gezondheid.

5.15.1 Eisers stellen allereerst dat het dragen van mond- en neuskapjes niet effectief is. Zij stellen dat de verplichting om die reden niet doorgevoerd had mogen worden. In hun stellingen wijzen zij erop dat nu de maatregel niet effectief is, deze niet mocht worden doorgevoerd, temeer niet nu deze maatregel een inbreuk vormt op de grondrechten. Deze stellingen betreffen het proportionaliteitsbeginsel.

5.15.2 De gedaagde heeft op deze grond verweer gevoerd. Zij heeft aangevoerd dat het wel is gebleken dat de maatregel effectief is. Om haar verweer te onderbouwen heeft zij acht en twintig producties overgelegd waaronder een publicatie van de Centers for Disease Control and Prevention van november 2020 waarin is geconcludeerd dat verschillende onderzoeken leiden tot de slotsom dat het gebruik van mond- en neuskapjes leidt tot de vermindering van de spreiding van het Covid-19 virus en een tussentijdse richtlijn van de WHO van 1 december 2020 (pagina 8 en verder) waarin wordt geadviseerd over te gaan tot het dragen van maskers in de gevallen van "community or cluster transmission".

5.15.3 De kantonrechter overweegt dat enerzijds eisers, blijkens de opsomming onder de grondslag, circa dertien onderzoeken hebben aangevoerd voor het onderbouwen van hun stelling. Anderzijds heeft gedaagde haar stelling onderbouwd met een achtentwintigtal publicaties, eveneens resultaten van wetenschappelijk onderzoek. De kantonrechter overweegt dat het evident is dat er in de wetenschappelijke wereld verschillende meningen bestaan over de effectiviteit en de gevolgen van het gebruik van mond- en neuskapjes. De kantonrechter overweegt dat, ondanks de meningsverschillen, uit het door gedaagde gevoerd verweer en de overgelegde producties, voldoende aannemelijk is geworden dat de inzichten van de WHO en andere internationale en nationale public health deskundigen, en het Outbreak Management

Team, op wiens adviezen de besluiten van de gedaagde zijn gebaseerd, tot de conclusie leiden dat de maatregel wel effectief is. Zoals ook in de hiervoor genoemde rechtspraak is overwogen, is de kantonrechter van oordeel dat gedaagde in beginsel op de adviezen van het Outbreak Management Team mag afgaan. De gedaagde heeft voldoende onderbouwd dat de maatregel effect heeft, althans dat zij hier in redelijkheid van mag uitgaan.

5.16.1 Eisers stellen ten tweede dat het dragen van mond- en neuskapjes schadelijk is voor de gezondheid van burgers, zowel fysiek als psychisch. Daardoor zou de verplichting om mond- en neuskapjes te dragen niet als maatregel mogen zijn doorgevoerd. Zij hebben om deze stelling te onderbouwen verwezen naar verschillende onderzoeken met betrekking tot het effect van de mondkapjes op het zuurstof- en kooldioxidegehalte in het bloed en het verhogen van het risico van virale en bacteriële besmettingen.

5.16.2 De gedaagde heeft ook op deze grond verweer gevoerd. Zij heeft aangevoerd dat het niet is gebleken dat het dragen van een mond- en neuskap een noemenswaardig effect heeft op het zuurstof- en kooldioxidegehalte in het bloed. Verder heeft zij aangevoerd dat er weliswaar ongemakken zijn gebleken doch dat deze ongemakken niet opwegen tegen het positieve effect dat het dragen van mond- en neuskapjes heeft op het indammen van de verspreiding van de pandemie en de daarmee gepaard gaande complicaties en mortaliteit. Om die reden hebben de WHO en andere internationale en nationale public health deskundigen, en het Outbreak Management Team, geadviseerd het dragen van een mond- en neuskap wel te verplichten. Ook ten aanzien van deze weren zijn door gedaagde enkele publicaties met onderzoeksresultaten overgelegd waaronder een publicatie van de American Thoracic Society waarin resultaten van een onderzoek zijn opgenomen betreffende de fysiologische effecten van het gebruik van mond- en neuskapjes. In die publicatie is de conclusie opgenomen dat er geen noemenswaardige gezondheidsproblemen ontstaan voor wat betreft het zuurstof- en kooldioxidegehalte in het bloed bij het dragen van een mond- en neuskap. Ook is in die publicatie ingegaan op het feit dat er geen redenen zijn om bezorgd te zijn over de veiligheid van het gebruik van de mond- en neuskapjes. Voorts is overgelegd een publicatie van de International Journal of Environmental Research en Public Health waarin is ingegaan op de fysiologische effecten van het dragen van een mond- en neuskap, waaronder het ontstaan van hoofdpijn, pijn aan het gezicht, acne, jeuk en huiduitslag. In die publicatie wordt echter geconcludeerd dat de hiervoor genoemde effecten veelal kunnen worden vermeden door een ander soort mond- en neuskap te gebruiken. In het artikel wordt gesteld dat het voordeel dat bereikt wordt door het gebruik van mond- en neuskapjes veel zwaarder wegen dan de nadelen die zijn genoemd. In de tussentijdse richtlijn van de WHO van december 2020 is op pagina 6 ingegaan op de nadelige effecten van het gebruik van mond- en neuskapjes en is op pagina 5 ingegaan op maatregelen die getroffen kunnen worden om de nadelige gevolgen van het dragen van een mond- en neuskap te vermijden.

5.16.3 De kantonrechter overweegt dat uit het door gedaagde gevoerd verweer en de overgelegde producties, voldoende aannemelijk is geworden dat de inzichten van de WHO en andere internationale en nationale public health deskundigen, en het Outbreak Management Team, op wiens adviezen de besluiten van de gedaagde zijn gebaseerd, tot de conclusie leiden dat er geen sprake is van zodanige nadelige gevolgen op de gezondheid door het dragen van een mond- en neuskap, dat de maatregel niet had mogen worden doorgevoerd. Evenals hiervoor overwogen, is de kantonrechter van oordeel dat gedaagde in beginsel op de adviezen van het Outbreak Management Team mag afgaan. De gedaagde heeft voldoende onderbouwd dat de maatregel niet leidt tot zodanige nadelige effecten voor de gezondheid van de dragers van een mond- en neusbedekking, dat de maatregel niet had mogen worden doorgevoerd, althans dat zij hier in redelijkheid van mag uitgaan.

5.17.1 De kantonrechter overweegt dat op grond van het hiervoor overwogene, de grondslag van eisers voor wat betreft de punten 1, 2 en 3 niet aannemelijk is geworden, met name de grondslag dat de maatregel niet had mogen worden doorgevoerd omdat de maatregel grondrechten beperkt terwijl de maatregel niet effectief is en schadelijk is voor de gezondheid.

5.17.2 De kantonrechter zal het deel van de grondslag, genoemd onder punt 4 van de grondslag, met betrekking tot de misleiding van de samenleving niet beoordelen nu dat deel van de grondslag niet valt onder de uitzondering op de onschendbaarheid van wetten zoals genoemd in artikel 80 lid 2 van de Grondwet.

5.18 De kantonrechter zal op grond van het voorgaande de gevraagde voorzieningen weigeren.

5.19 De kantonrechter zal de overige stellingen en weren van partijen niet verder bespreken nu deze niet langer relevant zijn en eisers, als de in het ongelijk gestelde partij, veroordelen in de proceskosten.

6. De beslissing

6.1 Weigert de gevraagde voorzieningen;
6.2 Veroordeelt eisers in de kosten van dit geding aan de zijde van gedaagde gevallen en tot aan deze uitspraak begroot op nihil.

Aldus gewezen en uitgesproken door mr. A.C. Johanns, kantonrechter in kort geding, ter openbare terechtzitting van het kantongerecht in het eerste kanton te Paramaribo van woensdag 24 maart 2021, in tegenwoordigheid van de griffier.

w.g. O. Apai  w.g. A.C. Johanns

EISERS IN KORT GEDING ZIJN IN PERSOON BIJ DE UITSPRAAK TER TERECHTZITTING VERSCHENEN EN DE GEDAAGDE IS BIJGESTAAN DOOR HAAR GEMACHTIGDEN VERSCHENEN.

Voor eensluidend afschrift
De Griffier, (Sub)
Apai 24/3/2021
Mr. O.S. Apai

# PRODUKTIE 2

**A.R. no. 21-0733/Kort Geding**

## VERKLARING HOGER BEROEP

Aan: De Griffie der Kantongerechten

Vonnis datum: 24 maart 2021

**a. Donk, Karel,**
**b. Stutgard, Ricky,**
VERZOEKERS, beiden procederende in persoon.

**CONTRA**

**De Staat Suriname met name het Ministerie van Volksgezondheid**, GEDAAGDE, gemachtigden, mr. C. Lachman en mr. M. Babulall, beiden advocaat.

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Hierbij delen wij u mede dat wij in de onderhavige zaak bekend onder A.R. no: 21-0733, **hoger beroep aantekenen**, tegen het vonnis uitgesproken door de kantonrechter in het Eerste Kanton, d.d. 24 maart 2021, welk vonnis d.d. 24 maart 2021 is afgegeven.

De aard van de vordering: Opschorting mond- en neusbedekkingsplicht.

Aangewezen deurwaarder: Dhr. R. Sontono.

Paramaribo, 6 april 2021

De procederende personen:

**Karel Donk**
Tel: 8593120
Email: karel@kareldonk.com

**Ricky Stutgard**
Tel: 8645626
Email: rickystutgard@hotmail.com

C.C.: mr. C. Lachman en mr. M. Babulall (gemachtigden van gedaagde).

Bijlagen: Overmakingsbewijs griffiekosten.

# PRODUKTIE 3

# Mask use in the context of COVID-19

Interim guidance

1 December 2020

World Health Organization

This document, which is an update of the guidance published on 5 June 2020, includes new scientific evidence relevant to the use of masks for reducing the spread of SARS-CoV-2, the virus that causes COVID-19, and practical considerations. It contains updated evidence and guidance on the following:

- mask management;
- SARS-CoV-2 transmission;
- masking in health facilities in areas with community, cluster and sporadic transmission;
- mask use by the public in areas with community and cluster transmission;
- alternatives to non-medical masks for the public;
- exhalation valves on respirators and non-medical masks;
- mask use during vigorous intensity physical activity;
- essential parameters to be considered when manufacturing non-medical masks (Annex).

## Key points

- The World Health Organization (WHO) advises the use of masks as part of a comprehensive package of prevention and control measures to limit the spread of SARS-CoV-2, the virus that causes COVID-19. A mask alone, even when it is used correctly, is insufficient to provide adequate protection or source control. Other infection prevention and control (IPC) measures include hand hygiene, physical distancing of at least 1 metre, avoidance of touching one's face, respiratory etiquette, adequate ventilation in indoor settings, testing, contact tracing, quarantine and isolation. Together these measures are critical to prevent human-to-human transmission of SARS-CoV-2.
- Depending on the type, masks can be used either for protection of healthy persons or to prevent onward transmission (source control).
- WHO continues to advise that anyone suspected or confirmed of having COVID-19 or awaiting viral laboratory test results should wear a medical mask when in the presence of others (this does not apply to those awaiting a test prior to travel).
- For any mask type, appropriate use, storage and cleaning or disposal are essential to ensure that they are as effective as possible and to avoid an increased transmission risk.

<u>Mask use in health care settings</u>

- WHO continues to recommend that health workers (1) providing care to suspected or confirmed COVID-19 patients wear the following types of mask/respirator in addition to other personal protective equipment that are part of standard, droplet and contact precautions:
  - medical mask in the absence of aerosol generating procedures (AGPs)
  - respirator, N95 or FFP2 or FFP3 standards, or equivalent in care settings for COVID-19 patients where AGPs are performed; these may be used by health workers when providing care to COVID-19 patients in other settings if they are widely available and if costs is not an issue.
- In areas of known or suspected community or cluster SARS-CoV-2 transmission WHO advises the following:
  - universal masking for all persons (staff, patients, visitors, service providers and others) within the health facility (including primary, secondary and tertiary care levels; outpatient care; and long-term care facilities)
  - wearing of masks by inpatients when physical distancing of at least 1 metre cannot be maintained or when patients are outside of their care areas.
- In areas of known or suspected sporadic SARS-CoV-2 transmission, health workers working in clinical areas where patients are present should continuously wear a medical mask. This is known as targeted continuous medical masking for health workers in clinical areas;
- Exhalation valves on respirators are discouraged as they bypass the filtration function for exhaled air by the wearer.

<u>Mask use in community settings</u>

- Decision makers should apply a risk-based approach when considering the use of masks for the general public.
- In areas of known or suspected community or cluster SARS-CoV-2 transmission:
  - WHO advises that the general public should wear a non-medical mask in indoor (e.g. shops, shared workplaces, schools - see Table 2 for details) or outdoor settings where physical distancing of at least 1 metre cannot be maintained.
  - If indoors, unless ventilation has been be assessed to be adequate[1], WHO advises that the general public should wear a non-medical mask, regardless of whether physical distancing of at least 1 metre can be maintained.

[1] For adequate ventilation refer to regional or national institutions or heating, refrigerating and air-conditioning societies enacting ventilation requirements. If not available or applicable, a recommended ventilation rate of 10 l/s/person should be met (except healthcare facilities which have specific requirements). For more information consult "Coronavirus (COVID-19) response

  - Individuals/people with higher risk of severe complications from COVID-19 (individuals ≥ 60 years old and those with underlying conditions such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease or immunosuppression) should wear medical masks when physical distancing of at least 1 metre cannot be maintained.
- In any transmission scenarios:
  - Caregivers or those sharing living space with people with suspected or confirmed COVID-19, regardless of symptoms, should wear a medical mask when in the same room.

Mask use in children (2)

- Children aged up to five years should not wear masks for source control.
- For children between six and 11 years of age, a risk-based approach should be applied to the decision to use a mask; factors to be considered in the risk-based approach include intensity of SARS-CoV-2 transmission, child's capacity to comply with the appropriate use of masks and availability of appropriate adult supervision, local social and cultural environment, and specific settings such as households with elderly relatives, or schools.
- Mask use in children and adolescents 12 years or older should follow the same principles as for adults.
- Special considerations are required for immunocompromised children or for paediatric patients with cystic fibrosis or certain other diseases (e.g., cancer), as well as for children of any age with developmental disorders, disabilities or other specific health conditions that might interfere with mask wearing.

Manufacturing of non-medical (fabric) masks (Annex)

- Homemade fabric masks of three-layer structure (based on the fabric used) are advised, with each layer providing a function: 1) an innermost layer of a hydrophilic material 2) an outermost layer made of hydrophobic material 3) a middle hydrophobic layer which has been shown to enhance filtration or retain droplets.
- Factory-made fabric masks should meet the minimum thresholds related to three essential parameters: filtration, breathability and fit.
- Exhalation valves are discouraged because they bypass the filtration function of the fabric mask rendering it unserviceable for source control.

## Methodology for developing the guidance

Guidance and recommendations included in this document are based on published WHO guidelines (in particular the WHO Guidelines on infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care) (2) and ongoing evaluations of all available scientific evidence by the WHO ad hoc COVID-19 Infection Prevention and Control Guidance Development Group (COVID-19 IPC GDG) (see acknowledgement section for list of GDG members). During emergencies WHO publishes interim guidance, the development of which follows a transparent and robust process of evaluation of the available evidence on benefits and harms. This evidence is evaluated through expedited systematic reviews and expert consensus-building through weekly GDG consultations, facilitated by a methodologist and, when necessary, followed up by surveys. This process also considers, as much as possible, potential resource implications, values and preferences, feasibility, equity, and ethics. Draft guidance documents are reviewed by an external review panel of experts prior to publication.

## Purpose of the guidance

This document provides guidance for decision makers, public health and IPC professionals, health care managers and health workers in health care settings (including long-term care and residential), for the public and for manufactures of non-medical masks (Annex). It will be revised as new evidence emerges.

WHO has also developed comprehensive guidance on IPC strategies for health care settings (3), long-term care facilities (LTCF) (4), and home care (5).

## Background

The use of masks is part of a comprehensive package of prevention and control measures that can limit the spread of certain respiratory viral diseases, including COVID-19. Masks can be used for protection of healthy persons (worn to protect oneself when in contact with an infected individual) or for source control (worn by an infected individual to prevent onward transmission) or both.

However, the use of a mask alone, even when correctly used (see below), is insufficient to provide an adequate level of protection for an uninfected individual or prevent onward transmission from an infected individual (source control). Hand hygiene, physical distancing of at least 1 metre, respiratory etiquette, adequate ventilation in indoor settings, testing, contact tracing, quarantine, isolation and other infection prevention and control (IPC) measures are critical to prevent human-to-human transmission of SARS-CoV-2, whether or not masks are used (6).

## Mask management

For any type of mask, appropriate use, storage and cleaning, or disposal are essential to ensure that they are as effective as possible and to avoid any increased risk of transmission. Adherence to correct mask management practices varies, reinforcing the need for appropriate messaging (7).

WHO provides the following guidance on the correct use of masks:

- Perform hand hygiene before putting on the mask.
- Inspect the mask for tears or holes, and do not use a damaged mask.
- Place the mask carefully, ensuring it covers the mouth and nose, adjust to the nose bridge and tie it securely to minimize any gaps between the face and the mask. If using ear loops, ensure these do not cross over as this widens the gap between the face and the mask.

resources from ASHRAE and others''
https://www.ashrae.org/technical-resources/resources

- Avoid touching the mask while wearing it. If the mask is accidently touched, perform hand hygiene.
- Remove the mask using the appropriate technique. Do not touch the front of the mask, but rather untie it from behind.
- Replace the mask as soon as it becomes damp with a new clean, dry mask.
- Either discard the mask or place it in a clean plastic resealable bag where it is kept until it can be washed and cleaned. Do not store the mask around the arm or wrist or pull it down to rest around the chin or neck.
- Perform hand hygiene immediately afterward discarding a mask.
- Do not re-use single-use mask.
- Discard single-use masks after each use and properly dispose of them immediately upon removal.
- Do not remove the mask to speak.
- Do not share your mask with others.
- Wash fabric masks in soap or detergent and preferably hot water (at least 60° Centigrade/140° Fahrenheit) at least once a day. If it is not possible to wash the masks in hot water, then wash the mask in soap/detergent and room temperature water, followed by boiling the mask for 1 minute.

## Scientific evidence

**Transmission of the SARS-CoV-2 virus**

Knowledge about transmission of the SARS-CoV-2 virus is evolving continuously as new evidence accumulates. COVID-19 is primarily a respiratory disease, and the clinical spectrum can range from no symptoms to severe acute respiratory illness, sepsis with organ dysfunction and death.

According to available evidence, SARS-CoV-2 mainly spreads between people when an infected person is in close contact with another person. Transmissibility of the virus depends on the amount of viable virus being shed and expelled by a person, the type of contact they have with others, the setting and what IPC measures are in place. The virus can spread from an infected person's mouth or nose in small liquid particles when the person coughs, sneezes, sings, breathes heavily or talks. These liquid particles are different sizes, ranging from larger 'respiratory droplets' to smaller 'aerosols.' Close-range contact (typically within 1 metre) can result in inhalation of, or inoculation with, the virus through the mouth, nose or eyes (8-13).

There is limited evidence of transmission through fomites (objects or materials that may be contaminated with viable virus, such as utensils and furniture or in health care settings a stethoscope or thermometer) in the immediate environment around the infected person (14-17). Nonetheless, fomite transmission is considered a possible mode of transmission for SARS-CoV-2, given consistent finding of environmental contamination in the vicinity of people infected with SARS-CoV-2 and the fact that other coronaviruses and respiratory viruses can be transmitted this way (12).

Aerosol transmission can occur in specific situations in which procedures that generate aerosols are performed. The scientific community has been actively researching whether the SARS-CoV-2 virus might also spread through aerosol transmission in the absence of aerosol generating procedures (AGPs) (18, 19). Some studies that performed air sampling in clinical settings where AGPs were not performed found virus RNA, but others did not. The presence of viral RNA is not the same as replication- and infection-competent (viable) virus that could be transmissible and capable of sufficient inoculum to initiate invasive infection. A limited number of studies have isolated viable SARS-CoV-2 from air samples in the vicinity of COVID-19 patients (20, 21).

Outside of medical facilities, in addition to droplet and fomite transmission, aerosol transmission can occur in specific settings and circumstances, particularly in indoor, crowded and inadequately ventilated spaces, where infected persons spend long periods of time with others. Studies have suggested these can include restaurants, choir practices, fitness classes, nightclubs, offices and places of worship (12).

High quality research is required to address the knowledge gaps related to modes of transmission, infectious dose and settings in which transmission can be amplified. Currently, studies are underway to better understand the conditions in which aerosol transmission or superspreading events may occur.

Current evidence suggests that people infected with SARS-CoV-2 can transmit the virus whether they have symptoms or not. However, data from viral shedding studies suggest that infected individuals have highest viral loads just before or around the time they develop symptoms and during the first 5-7 days of illness (12). Among symptomatic patients, the duration of infectious virus shedding has been estimated at 8 days from the onset of symptoms (22-24) for patients with mild disease, and longer for severely ill patients (12). The period of infectiousness is shorter than the duration of detectable RNA shedding, which can last many weeks (17).

The incubation period for COVID-19, which is the time between exposure to the virus and symptom onset, is on average 5-6 days, but can be as long as 14 days (25, 26).

Pre-symptomatic transmission – from people who are infected and shedding virus but have not yet developed symptoms – can occur. Available data suggest that some people who have been exposed to the virus can test positive for SARS-CoV-2 via polymerase chain reaction (PCR) testing 1-3 days before they develop symptoms (27). People who develop symptoms appear to have high viral loads on or just prior to the day of symptom onset, relative to later on in their infection (28).

Asymptomatic transmission – transmission from people infected with SARS-CoV-2 who never develop symptoms – can occur. One systematic review of 79 studies found that 20% (17–25%) of people remained asymptomatic throughout the course of infection. (28). Another systematic review, which included 13 studies considered to be at low risk of bias, estimated that 17% of cases remain asymptomatic (14%–20%) (30). Viable virus has been isolated from specimens of pre-symptomatic and asymptomatic individuals, suggesting that people who do not have symptoms may be able to transmit the virus to others. (25, 29-37)

Studies suggest that asymptomatically infected individuals are less likely to transmit the virus than those who develop symptoms (29). A systematic review concluded that individuals who are asymptomatic are responsible for transmitting fewer infections than symptomatic and pre-symptomatic cases (38). One meta-analysis estimated that there is a 42% lower relative risk of asymptomatic transmission compared to symptomatic transmission (30).

## Guidance on mask use in health care settings

**Masks for use in health care settings**

*Medical masks* are defined as surgical or procedure masks that are flat or pleated. They are affixed to the head with straps that go around the ears or head or both. Their performance characteristics are tested according to a set of standardized test methods (ASTM F2100, EN 14683, or equivalent) that aim to balance high filtration, adequate breathability and optionally, fluid penetration resistance (39, 40).

*Filtering facepiece respirators* (FFR), or respirators, offer a balance of filtration and breathability. However, whereas medical masks filter 3 micrometre droplets, respirators must filter more challenging 0.075 micrometre solid particles. European FFRs, according to standard EN 149, at FFP2 performance there is filtration of at least 94% solid NaCl particles and oil droplets. US N95 FFRs, according to NIOSH 42 CFR Part 84, filter at least 95% NaCl particles. Certified FFRs must also ensure unhindered breathing with maximum resistance during inhalation and exhalation. Another important difference between FFRs and other masks is the way filtration is tested. Medical mask filtration tests are performed on a cross-section of the masks, whereas FFRs are tested for filtration across the entire surface. Therefore, the layers of the filtration material and the FFR shape, which ensure the outer edges of the FFR seal around wearer's face, result in guaranteed filtration as claimed. Medical masks, by contrast, have an open shape and potentially leaking structure. Other FFR performance requirements include being within specified parameters for maximum $CO_2$ build up, total inward leakage and tensile strength of straps (41, 42).

### A. Guidance on the use of medical masks and respirators to provide care to suspected or confirmed COVID-19 cases

**Evidence on the use of mask in health care settings**

Systematic reviews have reported that the use of N95/P2 respirators compared with the use of medical masks (see mask definitions, above) is not associated with statistically significant differences for the outcomes of health workers acquiring clinical respiratory illness, influenza-like illness (risk ratio 0.83, 95%CI 0.63-1.08) or laboratory-confirmed influenza (risk ratio 1.02, 95%CI 0.73-1.43); harms were poorly reported and limited to discomfort associated with lower compliance (43, 44). In many settings, preserving the supply of N95 respirators for high-risk, aerosol-generating procedures is an important consideration (45).

A systematic review of observational studies on the betacoronaviruses that cause severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS) and COVID-19 found that the use of face protection (including respirators and medical masks) is associated with reduced risk of infection among health workers. These studies suggested that N95 or similar respirators might be associated with greater reduction in risk than medical or 12–16-layer cotton masks. However, these studies had important limitations (recall bias, limited information about the situations when respirators were used and limited ability to measure exposures), and very few studies included in the review evaluated the transmission risk of COVID-19 (46). Most of the studies were conducted in settings in which AGPs were performed or other high-risk settings (e.g., intensive care units or where there was exposure to infected patients and health workers were not wearing adequate PPE).

WHO continues to evaluate the evidence on the effectiveness of the use of different masks and their potential harms, risks and disadvantages, as well as their combination with hand hygiene, physical distancing of at least 1 metre and other IPC measures.

**Guidance**

WHO's guidance on the type of respiratory protection to be worn by health workers providing care to COVID-19 patients is based on 1) WHO recommendations on IPC for epidemic- and pandemic-prone acute respiratory infections in health care (47); 2) updated systematic reviews of randomized controlled trials on the effectiveness of medical masks compared to that of respirators for reducing the risk of clinical respiratory illness, influenza-like illness (ILI) and laboratory-confirmed influenza or viral infections. WHO guidance in this area is aligned with guidelines of other professional organizations, including the European Society of Intensive Care Medicine and the Society of Critical Care Medicine, and the Infectious Diseases Society of America (48, 49).

The WHO COVID-19 IPC GDG considered all available evidence on the modes of transmission of SARS-CoV-2 and on the effectiveness of medical mask versus respirator use to protect health workers from infection and the potential for harms such as skin conditions or breathing difficulties.

Other considerations included availability of medical masks versus respirators, cost and procurement implications and equity of access by health workers across different settings.

The majority (71%) of the GDG members confirmed their support for previous recommendations issued by WHO on 5 June 2020:

1. In the absence of aerosol generating procedures (AGPs)[2], WHO recommends that health workers providing care to patients with suspected or confirmed COVID-19 should wear a medical mask (in addition to other PPE that are part of droplet and contact precautions).
2. In care settings for COVID-19 patients where AGPs are performed, WHO recommends that health workers should wear a respirator (N95 or FFP2 or FFP3 standard, or equivalent) in addition to other PPE that are part of airborne and contact precautions.

In general, health workers have strong preferences about having the highest perceived protection possible to prevent COVID-19 infection and therefore may place high value on the potential benefits of respirators in settings without AGPs. WHO recommends respirators primarily for settings where AGPs are performed; however, if health workers prefer them and they are sufficiently available and cost is not an issue, they could also be used during care for COVID-19 patients in other settings. For additional guidance on PPE, including PPE

[2] The WHO list of AGPs includes tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, sputum induction using nebulized hypertonic saline, and dentistry and autopsy procedures.

beyond mask use by health workers, see WHO IPC guidance during health care when COVID-19 infection is suspected (3) and also WHO guidance on the rational use of PPE (45).

Exhalation valves on respirators are discouraged as they bypass the filtration function for exhaled air.

**B. Guidance on the use of mask by health workers, caregivers and others based on transmission scenario**

**Definitions**

*Universal masking* in health facilities is defined as the requirement for all persons (staff, patients, visitors, service providers and others) to wear a mask at all times except for when eating or drinking.

*Targeted continuous medical mask use* is defined as the practice of wearing a medical mask by all health workers and caregivers working in clinical areas during all routine activities throughout the entire shift.

*Health workers* are all people primarily engaged in actions with the primary intent of enhancing health. Examples are: nursing and midwifery professionals, doctors, cleaners, other staff who work in health facilities, social workers, and community health workers.

**Evidence on universal masking in health care settings**

In areas where there is community transmission or large-scale outbreaks of COVID-19, universal masking has been adopted in many hospitals to reduce the potential of transmission by health workers to patients, to other staff and anyone else entering the facility (50).

Two studies found that implementation of a universal masking policy in hospital systems was associated with decreased risk of healthcare-acquired SARS-CoV-2 infection. However, these studies had serious limitations: both were before-after studies describing a single example of a phenomenon before and after an event of interest, with no concurrent control group, and other infection control measures were not controlled for (51, 52). In addition, observed decreases in health worker infections occurred too quickly to be attributable to the universal masking policy.

**Guidance**

Although more research on universal masking in heath settings is needed, it is the expert opinion of the majority (79%) of WHO COVID-19 IPC GDG members that universal masking is advisable in geographic settings where there is known or suspected community or cluster transmission of the SARS-CoV-2 virus.

1. In areas of known or suspected community or cluster SARS-CoV-2 transmission, universal masking should be advised in all health facilities (see Table 1).

- All health workers, including community health workers and caregivers, should wear a medical mask at all times, for any activity (care of COVID-19 or non-COVID-19 patients) and in any common area (e.g., cafeteria, staff rooms).
- Other staff, visitors, outpatients and service providers should also wear a mask (medical or non-medical) at all times
- Inpatients are not required to wear a mask (medical or non-medical) unless physical distancing of at least 1 metre cannot be maintained (e.g., when being examined or visited at the bedside) or when outside of their care area (e.g., when being transported).
- Masks should be changed when they become soiled, wet or damaged or if the health worker/caregiver removes the mask (e.g., for eating or drinking or caring for a patient who requires droplet/contact precautions for reasons other than COVID-19).

2. In the context of known or suspected sporadic SARS-CoV-2 virus transmission, WHO provides the following guidance:

- Health workers, including community health workers and caregivers who work in clinical areas, should continuously wear a medical mask during routine activities throughout the entire shift, apart from when eating and drinking and changing their medical masks after caring for a patient who requires droplet/contact precautions for other reasons. In all cases, medical masks must be changed when wet, soiled, or damaged; used medical masks should be properly disposed of at the end of the shift; and new clean ones should be used for the next shift or when medical masks are changed.
- It is particularly important to adopt the continuous use of masks in potentially high transmission risk settings including triage, family physician/general practitioner offices; outpatient departments; emergency rooms; COVID-19 designated units; haematology, oncology and transplant units; and long-term health and residential facilities.
- Staff who do not work in clinical areas (e.g., administrative staff) do not need to wear a medical mask during routine activities if they have no exposure to patients.

Whether using masks for universal masking within health facilities or targeted continuous medical mask use throughout the entire shift, health workers should ensure the following:

- Medical mask use should be combined with other measures including frequent hand hygiene and physical distancing among health workers in shared and crowded places such as cafeterias, break rooms, and dressing rooms.
- The medical mask should be changed when wet, soiled, or damaged.
- The medical mask should not be touched to adjust it or if displaced from the face for any reason. If this happens, the mask should be safely removed and replaced, and hand hygiene performed.
- The medical mask (as well as other personal protective equipment) should be discarded and changed after caring for any patient who requires contact/droplet precautions for other pathogens, followed by hand hygiene.
- Under no circumstances should medical masks be shared between health workers or between others wearing them. Masks should be appropriately disposed of whenever removed and not reused.

- A particulate respirator at least as protective as a United States of America (US) National Institute for Occupational Safety and Health-certified N95, N99, US Food and Drug Administration surgical N95, European Union standard FFP2 or FFP3, or equivalent, should be worn in settings for COVID-19 patients where AGPs are performed (see WHO recommendations below). In these settings, this includes continuous use by health workers throughout the entire shift, when this policy is implemented.

Note: Decision makers may consider the transmission intensity in the catchment area of the health facility or community setting and the feasibility of implementing a universal masking policy compared to a policy based on assessed or presumed exposure risk. Decisions need to take into account procurement, sustainability and costs of the policy. When planning masks for all health workers, long-term availability of adequate medical masks (and when applicable, respirators) for all workers should be ensured, in particular for those providing care for patients with confirmed or suspected COVID-19. Proper use and adequate waste management should be ensured.

The potential harms and risks of mask and respirator use in the health facility setting include:

- contamination of the mask due to its manipulation by contaminated hands (53, 54);
- potential self-contamination that can occur if medical masks are not changed when wet, soiled or damaged; or by frequent touching/adjusting when worn for prolonged periods (55);
- possible development of facial skin lesions, irritant dermatitis or worsening acne, when used frequently for long hours (56-58);
- discomfort, facial temperature changes and headaches from mask wearing (44, 59, 60);
- false sense of security leading potentially to reduced adherence to well recognized preventive measures such as physical distancing and hand hygiene; and risk-taking behaviours (61-64);
- difficulty wearing a mask in hot and humid environments
- possible risk of stock depletion due to widespread use in the context of universal masking and targeted continuous mask use and consequent scarcity or unavailability for health workers caring for COVID 19 patients and during health care interactions with non-COVID-19 patients where medical masks or respirators might be required.

**Alternatives to medical masks in health care settings**

The WHO's disease commodity package (DCP) for COVID-19 recommends medical masks for health workers to be type II or higher (65). Type II medical masks provide a physical barrier to fluids and particulate materials and have bacterial filtration efficiency of ≥98% compared to Type I mask, which has bacterial filtration efficiency of ≥95% and lower fluid resistance (66) In case of stock outs of type II or higher medical masks, health workers should use a type I medical mask as an alternative. Other alternatives such as face shields or fabric masks should be carefully evaluated.

Face shields are designed to provide protection from splashes of biological fluid (particularly respiratory secretions), chemical agents and debris (67, 68) into the eyes. In the context of protection from SARS-CoV-2 transmission through respiratory droplets, face shields are used by health workers as personal protective equipment (PPE) for eye protection in combination with a medical mask or a respirator (69, 70) While a face shield may confer partial protection of the facial area against respiratory droplets, these and smaller droplets may come into contact with mucous membranes or with the eyes from the open gaps between the visor and the face (71,67).

Fabric masks are not regulated as protective masks or part of the PPE directive. They vary in quality and are not subject to mandatory testing or common standards and as such are not considered an appropriate alternative to medical masks for protection of health workers. One study that evaluated the use of cloth masks in a health care facility found that health care workers using 2 ply cotton cloth masks (a type of fabric mask) were at increased risk of influenza-like illness compared with those who wore medical masks (72).

In the context of severe medical mask shortage, face shields alone or in combination with fabric mask may be considered as a last resort (73). Ensure proper design of face shields to cover the sides of the face and below the chin.

As for other PPE items, if production of fabric masks for use in health care settings is proposed locally in situations of shortage or stock out, a local authority should assess the product according to specific minimum performance standards and required technical specifications (see Annex).

**Additional considerations for community care settings**

Like other health workers, community health workers should apply standard precautions for all patients at all times, with particular emphasis regarding hand and respiratory hygiene, surface and environmental cleaning and disinfection and the appropriate use of PPE. When a patient is suspected or confirmed of having COVID-19, community health workers should always apply contact and droplet precautions. These include the use of a medical mask, gown, gloves and eye protection (74).

IPC measures that are needed will depend on the local COVID-19 transmission dynamics and the type of contact required by the health care activity (see Table 1). The community health workforce should ensure that patients and workforce members apply precautionary measures such as respiratory hygiene and physical distancing of at least 1 metre (3.3 feet). They also may support set-up and maintenance of hand hygiene stations and community education (74). In the context of known or suspected community or cluster transmission, community health workers should wear a medical mask when providing essential routine services (see Table 1).

**Table 1. Mask use in health care settings depending on transmission scenario, target population, setting, activity and type***

| Transmission scenario | Target population (who) | Setting (where) | Activity (what) | Mask type (which one) * |
|---|---|---|---|---|
| Known or suspected community or cluster transmission of SARS-CoV-2 | Health workers and caregivers | Health facility (including primary, secondary, tertiary care levels, outpatient care, and long-term care facilities) | For any activity in patient-care areas (COVID-19 or non-COVID-19 patients) or in any common areas (e.g., cafeteria, staff rooms) | Medical mask (or respirator if aerosol generating procedures performed) |
| | Other staff, patients, visitors, service suppliers | | For any activity or in any common area | Medical or fabric mask |
| | Inpatients | In single or multiple-bed rooms | When physical distance of at least 1 metre cannot be maintained | |
| | Health workers and caregivers | Home visit (for example, for antenatal or postnatal care, or for a chronic condition) | When in direct contact with a patient or when a distance of at least 1 metre cannot be maintained. | Medical mask |
| | | Community | Community outreach programmes/essential routine services | |
| Known or suspected sporadic transmission of SARS-CoV-2 cases | Health workers and caregivers | Health facility (including primary, secondary, tertiary care levels, outpatient care, and long-term care facilities) | In patient care area- irrespective of whether patients have suspected/confirmed COVID-19 | Medical mask |
| | Other staff, patients, visitors, service suppliers and all others | | No routine activities in patient areas | Medical mask not required. Medical mask should be worn if in contact or within 1 metre of patients, or according to local risk assessment |
| | Health workers and caregivers | Home visit (for example, for antenatal or postnatal care, or for a chronic condition) | When in direct contact or when a distance of at least 1metre cannot be maintained. | Medical mask |
| | | Community | Community outreach programs (e.g., bed net distribution) | |
| No documented SARS-CoV-2 transmission | Health workers and caregivers | Health facility (including primary, secondary, tertiary care levels, outpatient care, and long-term care facilities) | Providing any patient care | Medical mask use according to standard and transmission-based precautions |
| | | Community | Community outreach programs | |
| Any transmission scenario | Health workers | Health care facility (including primary, secondary, tertiary care levels, outpatient care, and long-term care facilities), in settings where aerosol generating procedures (AGP) are performed | Performing an AGP on a suspected or confirmed COVID-19 patient or providing care in a setting where AGPs are in place for COVID-19 patients | Respirator (N95 or N99 or FFP2 or FFP3) |

**This table refers only to the use of medical masks and respirators. The use of medical masks and respirators may need to be combined with other personal protective equipment and other measures as appropriate, and always with hand hygiene.*

## Guidance on mask use in community settings

**Evidence on the protective effect of mask use in community settings**

At present there is only limited and inconsistent scientific evidence to support the effectiveness of masking of healthy people in the community to prevent infection with respiratory viruses, including SARS-CoV-2 (75). A large randomized community-based trial in which 4862 healthy participants were divided into a group wearing medical/surgical masks and a control group found no difference in infection with SARS-CoV-2 (76). A recent systematic review found nine trials (of which eight were cluster-randomized controlled trials in which clusters of people, versus individuals, were randomized) comparing medical/surgical masks versus no masks to prevent the spread of viral respiratory illness. Two trials were with healthcare workers and seven in the community. The review concluded that wearing a mask may make little or no difference to the prevention of influenza-like illness (ILI) (RR 0.99, 95%CI 0.82 to 1.18) or laboratory confirmed illness (LCI) (RR 0.91, 95%CI 0.66-1.26) (44); the certainty of the evidence was low for ILI, moderate for LCI.

By contrast, a small retrospective cohort study from Beijing found that mask use by entire families before the first family member developed COVID-19 symptoms was 79% effective in reducing transmission (OR 0.21, 0.06-0.79) (77). A case-control study from Thailand found that wearing a medical or non-medical mask all the time during contact with a COVID-19 patient was associated with a 77% lower risk of infection (aOR 0.23; 95% CI 0.09–0.60) (78). Several small observational studies with epidemiological data have reported an association between mask use by an infected person and prevention of onward transmission of SARS-CoV-2 infection in public settings. (8, 79-81).

A number of studies, some peer reviewed (82-86) but most published as pre-prints (87-104), reported a decline in the COVID-19 cases associated with face mask usage by the public, using country- or region-level data. One study reported an association between community mask wearing policy adoption and increased movement (less time at home, increased visits to commercial locations) (105). These studies differed in setting, data sources and statistical methods and have important limitations to consider (106), notably the lack of information about actual exposure risk among individuals, adherence to mask wearing and the enforcement of other preventive measures (107, 108).

Studies of influenza, influenza-like illness and human coronaviruses (not including COVID-19) provide evidence that the use of a medical mask can prevent the spread of infectious droplets from a symptomatic infected person to someone else and potential contamination of the environment by these droplets (75). There is limited evidence that wearing a medical mask may be beneficial for preventing transmission between healthy individuals sharing households with a sick person or among attendees of mass gatherings (44, 109-114).

A meta-analysis of observational studies on infections due to betacoronaviruses, with the intrinsic biases of observational data, showed that the use of either disposable medical masks or reusable 12–16-layer cotton masks was associated with protection of healthy individuals within households and among contacts of cases (46). This could be considered to be indirect evidence for the use of masks (medical or other) by healthy individuals in the wider community; however, these studies suggest that such individuals would need to be in close proximity to an infected person in a household or at a mass gathering where physical distancing cannot be achieved to become infected with the virus. Results from cluster randomized controlled trials on the use of masks among young adults living in university residences in the United States of America indicate that face masks may reduce the rate of influenza-like illness but showed no impact on risk of laboratory-confirmed influenza (115, 116).

**Guidance**

The WHO COVID-19 IPC GDG considered all available evidence on the use of masks by the general public including effectiveness, level of certainty and other potential benefits and harms, with respect to transmission scenarios, indoor versus outdoor settings, physical distancing and ventilation. Despite the limited evidence of protective efficacy of mask wearing in community settings, in addition to all other recommended preventive measures, the GDG advised mask wearing in the following settings:

1. In areas with known or suspected community or cluster transmission of SARS-CoV-2, WHO advises mask use by the public in the following situations (see Table 2):

   Indoor settings:

- in public indoor settings where ventilation is known to be poor regardless of physical distancing: limited or no opening of windows and doors for natural ventilation; ventilation system is not properly functioning or maintained; or cannot be assessed;
- in public indoor settings that have adequate[3] ventilation if physical distancing of at least 1 metre cannot be maintained;
- in household indoor settings: when there is a visitor who is not a household member and ventilation is known to be poor, with limited opening of windows and doors for natural ventilation, or the ventilation system cannot be assessed or is not properly functioning, regardless of whether physical distancing of at least 1 metre can be maintained;
- in household indoor settings that have adequate ventilation if physical distancing of at least 1 metre cannot be maintained.

[3] For adequate ventilation refer to regional or national institutions or heating, refrigerating and air-conditioning societies enacting ventilation requirements. If not available or applicable, a recommended ventilation rate of 10 l/s/person should be met (except healthcare facilities which have specific requirements). For more information consult "Coronavirus (COVID-19) response resources from ASHRAE and others'' https://www.ashrae.org/technical-resources/resources

**Table 2. Mask use in community settings depending on transmission scenario, setting, target population, purpose and type***

| Transmission scenario | Situations/settings (where) | Target Population (who) | Purpose of mask use (why) | Mask type (which one) |
|---|---|---|---|---|
| Known or suspected community or cluster transmission of SARS-CoV-2 | Indoor settings, where ventilation is known to be poor or cannot be assessed or the ventilation system is not properly maintained, regardless of whether physical distancing of at least 1 meter can be maintained | General population in public* settings such as shops, shared workplaces, schools, churches, restaurants, gyms, etc. or in enclosed settings such as public transportation.<br><br>For households, in indoor settings, when there is a visitor who is not a member of the household | Potential benefit for source control | Fabric mask |
| | Indoor settings that have adequate [4] ventilation if physical distancing of at least 1 metre cannot be maintained | | | |
| | Outdoor settings where physical distancing cannot be maintained | General population in settings such as crowded open-air markets, lining up outside a building, during demonstrations, etc. | | |
| | Settings where physical distancing cannot be maintained, and the individual is at increased risk of infection and/or negative outcomes | Individuals/people with higher risk of severe complications from COVID-19:<br>• People aged ≥60 years<br>• People with underlying comorbidities, such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease, immunosuppression, obesity, asthma | Protection | Medical mask |
| Known or suspected sporadic transmission, or no documented SARS-CoV-2 transmission | Risk-based approach | General population | Potential benefit for source control and/or protection | Depends on purpose (see details in the guidance content) |
| Any transmission scenario | Any setting in the community | Anyone suspected or confirmed of having COVID-19, regardless of whether they have symptoms or not, or anyone awaiting viral test results, when in the presence of others | Source control | Medical mask |

**Public indoor setting includes any indoor setting outside of the household*

[4] For adequate ventilation refer to regional or national institutions or heating, refrigerating and air-conditioning societies enacting ventilation requirements. If not available or applicable, a recommended ventilation rate of 10l/s/person should be met (except healthcare facilities which have specific requirements).). For more information consult "Coronavirus (COVID-19) response resources from ASHRAE and others'' https://www.ashrae.org/technical-resources/resources

In outdoor settings:

- where physical distancing of at least 1 metre cannot be maintained;
- individuals/people with higher risk of severe complications from COVID-19 (individuals ≥ 60 years old and those with underlying conditions such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer, cerebrovascular disease or immunosuppression) should wear medical masks in any setting where physical distance cannot be maintained.

2. In areas with known or suspected sporadic transmission or no documented transmission, as in all transmission scenarios, WHO continues to advise that decision makers should apply a risk-based approach focusing on the following criteria when considering the use of masks for the public:

- **Purpose of mask use**. Is the intention source control (preventing an infected person from transmitting the virus to others) or protection (preventing a healthy wearer from the infection)?
- **Risk of exposure to SARS-CoV-2**. Based on the epidemiology and intensity of transmission in the population, is there transmission and limited or no capacity to implement other containment measures such as contact tracing, ability to carry out testing and isolate and care for suspected and confirmed cases? Is there risk to individuals working in close contact with the public (e.g., social workers, personal support workers, teachers, cashiers)?
- **Vulnerability of the mask wearer/population**. Is the mask wearer at risk of severe complications from COVID-19? Medical masks should be used by older people (≥ 60 years old), immunocompromised patients and people with comorbidities, such as cardiovascular disease or diabetes mellitus, chronic lung disease, cancer and cerebrovascular disease (117).
- **Setting in which the population lives**. Is there high population density (such as in refugee camps, camp-like settings, and among people living in cramped conditions) and settings where individuals are unable to keep a physical distance of at least 1 metre (for example, on public transportation)?
- **Feasibility**. Are masks available at an affordable cost? Do people have access to clean water to wash fabric masks, and can the targeted population tolerate possible adverse effects of wearing a mask?
- **Type of mask**. Does the use of medical masks in the community divert this critical resource from the health workers and others who need them the most? In settings where medical masks are in short supply, **stocks should be prioritized for health workers and at-risk individuals.**

The decision of governments and local jurisdictions whether to recommend or make mandatory the use of masks should be based on the above assessment as well as the local context, culture, availability of masks and resources required.

3. In any transmission scenario:

- Persons with any symptoms suggestive of COVID-19 should wear a medical mask and (5) additionally:
  - self-isolate and seek medical advice as soon as they start to feel unwell with potential symptoms of COVID-19, even if symptoms are mild);
  - follow instructions on how to put on, take off, and dispose of medical masks and perform hand hygiene (118);
  - follow all additional measures, in particular respiratory hygiene, frequent hand hygiene and maintaining physical distance of at least 1 metre from other persons (46). If a medical mask is not available for individuals with suspected or confirmed COVID-19, a fabric mask meeting the specifications in the Annex of this document should be worn by patients as a source control measure, pending access to a medical mask. The use of a non-medical mask can minimize the projection of respiratory droplets from the user (119, 120).
  - Asymptomatic persons who test positive for SARS-CoV-2, should wear a medical mask when with others for a period of 10 days after testing positive.

**Potential benefits/harms**

The potential advantages of mask use by healthy people in the general public include:

- reduced spread of respiratory droplets containing infectious viral particles, including from infected persons before they develop symptoms (121);
- reduced potential for stigmatization and greater of acceptance of mask wearing, whether to prevent infecting others or by people caring for COVID-19 patients in non-clinical settings (122);
- making people feel they can play a role in contributing to stopping spread of the virus;
- encouraging concurrent transmission prevention behaviours such as hand hygiene and not touching the eyes, nose and mouth (123-125);
- preventing transmission of other respiratory illnesses like tuberculosis and influenza and reducing the burden of those diseases during the pandemic (126).

The potential disadvantages of mask use by healthy people in the general public include:

- headache and/or breathing difficulties, depending on type of mask used (55);
- development of facial skin lesions, irritant dermatitis or worsening acne, when used frequently for long hours (58, 59, 127);
- difficulty with communicating clearly, especially for persons who are deaf or have poor hearing or use lip reading (128, 129);
- discomfort (44, 55, 59)
- a false sense of security leading to potentially lower adherence to other critical preventive measures such as physical distancing and hand hygiene (105);
- poor compliance with mask wearing, in particular by young children (111, 130-132);
- waste management issues; improper mask disposal leading to increased litter in public places and environmental hazards (133);
- disadvantages for or difficulty wearing masks, especially for children, developmentally challenged persons, those with mental illness, persons with cognitive impairment, those with asthma or chronic respiratory or breathing problems, those who have had facial trauma or recent oral maxillofacial surgery and those living in hot and humid environments (55, 130).

**Considerations for implementation**

When implementing mask policies for the public, decision-makers should:

- clearly communicate the purpose of wearing a mask, including when, where, how and what type of mask should be worn; explain what wearing a mask may achieve and what it will not achieve; and communicate clearly that this is one part of a package of measures along with hand hygiene, physical distancing, respiratory etiquette, adequate ventilation in indoor settings and other measures that are all necessary and all reinforce each other;
- inform/train people on when and how to use masks appropriately and safely (see mask management and maintenance sections);
- consider the feasibility of use, supply/access issues (cleaning, storage), waste management, sustainability, social and psychological acceptance (of both wearing and not wearing different types of masks in different contexts);
- continue gathering scientific data and evidence on the effectiveness of mask use (including different types of masks) in non-health care settings;
- evaluate the impact (positive, neutral or negative) of using masks in the general population (including behavioural and social sciences) through good quality research.

## Mask use during physical activity

**Evidence**

There are limited studies on the benefits and harms of wearing medical masks, respirators and non-medical masks while exercising. Several studies have demonstrated statistically significant deleterious effects on various cardiopulmonary physiologic parameters during mild to moderate exercise in healthy subjects and in those with underlying respiratory diseases (134-140). The most significant impacts have been consistently associated with the use of respirators and in persons with underlying obstructive airway pulmonary diseases such as asthma and chronic obstructive pulmonary disease (COPD), especially when the condition is moderate to severe (136). Facial microclimate changes with increased temperature, humidity and perceptions of dyspnoea were also reported in some studies on the use of masks during exercise (134, 141). A recent review found negligeable evidence of negative effects of mask use during exercise but noted concern for individuals with severe cardiopulmonary disease (142).

**Guidance**

WHO advises that people should not wear masks during vigorous intensity physical activity (143) because masks may reduce the ability to breathe comfortably. The most important preventive measure is to maintain physical distancing of at least 1 meter and ensure good ventilation when exercising.

If the activity takes place indoors, adequate ventilation should be ensured at all times through natural ventilation or a properly functioning or maintained ventilation system (144). Particular attention should be paid to cleaning and disinfection of the environment, especially high-touch surfaces. If all the above measures cannot be ensured, consider temporary closure of public indoor exercise facilities (e.g., gyms).

## Face shields for the general public

At present, face shields are considered to provide a level of eye protection only and should not be considered as an equivalent to masks with respect to respiratory droplet protection and/or source control. Current laboratory testing standards only assess face shields for their ability to provide eye protection from chemical splashes (145).

In the context of non-availability or difficulties wearing a non-medical mask (in persons with cognitive, respiratory or hearing impairments, for example), face shields may be considered as an alternative, noting that they are inferior to masks with respect to droplet transmission and prevention. If face shields are to be used, ensure proper design to cover the sides of the face and below the chin.

## Medical masks for the care of COVID-19 patients at home

WHO provides guidance on how to care for patients with confirmed and suspected COVID-19 at home when care in a health facility or other residential setting is not possible (5).

- Persons with suspected COVID-19 or mild COVID-19 symptoms should wear a medical mask as much as possible, especially when there is no alternative to being in the same room with other people. The mask should be changed at least once daily. Persons who cannot tolerate a medical mask should rigorously apply respiratory hygiene (i.e., cover mouth and nose with a disposable paper tissue when coughing or sneezing and dispose of it immediately after use or use a bent elbow procedure and then perform hand hygiene).
- Caregivers of or those sharing living space with people with suspected COVID-19 or with mild COVID-19 symptoms should wear a medical mask when in the same room as the affected person.

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WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 1 year after the date of publication.

## Annex: Updated guidance on non-medical (fabric) masks

### Background

A non-medical mask, also called fabric mask, community mask or face covering, is neither a medical device nor personal protective equipment. Non-medical masks are aimed at the general population, primarily for protecting others from exhaled virus-containing droplets emitted by the mask wearer. They are not regulated by local health authorities or occupational health associations, nor is it required for manufacturers to comply with guidelines established by standards organizations. Non-medical masks may be homemade or manufactured. The essential performance parameters include good breathability, filtration of droplets originating from the wearer, and a snug fit covering the nose and mouth. Exhalation valves on masks are discouraged as they bypass the filtration function of the mask.

Non-medical masks are made from a variety of woven and non-woven fabrics, such as woven cotton, cotton/synthetic blends, polyesters and breathable spunbond polypropylene, for example. They may be made of different combinations of fabrics, layering sequences and available in diverse shapes. Currently, more is known about common household fabrics and combinations to make non-medical masks with target filtration efficiency and breathability (119, 146-150). Few of these fabrics and combinations have been systematically evaluated and there is no single design, choice of material, layering or shape among available non-medical masks that are considered optimal. While studies have focussed on single fabrics and combinations, few have looked at the shape and universal fit to the wearer. The unlimited combination of available fabrics and materials results in variable filtration and breathability.

In the context of the global shortage of medical masks and PPE, encouraging the public to create their own fabric masks may promote individual enterprise and community integration. Moreover, the production of non-medical masks may offer a source of income for those able to manufacture masks within their communities. Fabric masks can also be a form of cultural expression, encouraging public acceptance of protection measures in general. The safe re-use of fabric masks will also reduce costs and waste and contribute to sustainability (151-156).

This Annex is destined intended for two types of readers: homemade mask makers and factory-made masks manufacturers. Decision makers and managers (national/sub-national level) advising on a type of non-medical mask are also the focus of this guidance and should take into consideration the following features of non-medical masks: breathability, filtration efficiency (FE), or filtration, number and combination of fabric layers material used, shape, coating and maintenance.

### Evidence on the effectiveness of non-medical (fabric) masks

A number of reviews have been identified on the effectiveness of non-medical masks (151-156). One systematic review (155) identified 12 studies and evaluated study quality. Ten were laboratory studies (157-166), and two reports were from a single randomized trial (72, 167). The majority of studies were conducted before COVID-19 emerged or used laboratory generated particles to assess filtration efficacy. Overall, the reviews concluded that cloth face masks have limited efficacy in combating viral infection transmission.

### Homemade non-medical masks

Homemade non-medical masks made of household fabrics (e.g., cotton, cotton blends and polyesters) should ideally have a three-layer structure, with each layer providing a function (see Figure 1) (168). It should include:

1. an innermost layer (that will be in contact with the face) of a hydrophilic material (e.g., cotton or cotton blends of terry cloth towel, quilting cotton and flannel) that is non-irritating against the skin and can contain droplets (148)
2. a middle hydrophobic layer of synthetic breathable non-woven material (spunbond polypropylene, polyester and polyaramid), which may enhance filtration, prevent permeation of droplets or retain droplets (148, 150)
3. an outermost layer made of hydrophobic material (e.g. spunbond polypropylene, polyester or their blends), which may limit external contamination from penetrating through the layers to the wearer's nose and mouth and maintains and prevents water accumulation from blocking the pores of the fabric (148).

Although a minimum of three layers is recommended for non-medical masks for the most common fabric used, single, double or other layer combinations of advanced materials may be used if they meet performance requirements. It is important to note that with more tightly woven materials, breathability may be reduced as the number of layers increases. A quick check may be performed by attempting to breathe, through the mouth, through the multiple layers.

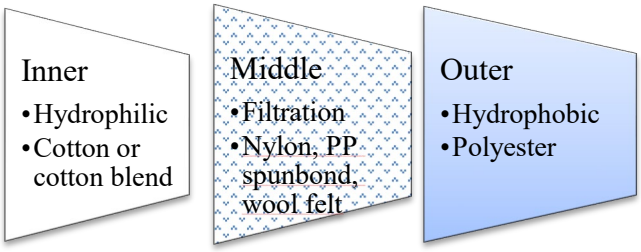


*Figure 1.* Non-medical mask construction using breathable fabrics such as cotton, cotton blends, polyesters, nylon and polypropylene spunbond that are breathable may impart adequate filtration performance when layered. Single- or double-layer combinations of advanced materials may be used if they meet performance requirements (72).

Assumptions regarding homemade masks are that individual makers only have access to common household fabrics and do not have access to test equipment to confirm target performance (filtration and breathability). Figure 1 illustrates a multi-layer mask construction with examples of fabric options. Very porous materials, such as gauze, even with multiple layers, may provide very low filtration efficiency (147). Higher thread count fabrics offer improved filtration performance (169). Coffee filters, vacuum bags and materials not meant for clothing should be avoided as they may contain injurious content when breathed in. Microporous films such as Gore-Tex are not recommended (170).

**Factory-made non-medical masks: general considerations for manufacturers**

The non-medical mask, including all components and packaging, must be non-hazardous, non-toxic and child-friendly (no exposed sharp edges, protruding hardware or rough materials). Factory-made non-medical masks must be made using a process that is certified to a quality management system (e.g., ISO 9001). Social accountability standards (e.g., SAI SA8000) for multiple aspects of fair labour practices, health and safety of the work force and adherence to UNICEF's Children's Rights and Business Principles are strongly encouraged.

**Standards organizations' performance criteria**

Manufacturers producing masks with consistent standardized performance can adhere to published, freely available guidance from several organizations including those from: the French Standardization Association (AFNOR Group), The European Committee for Standardization (CEN), Swiss National COVID-19 Task Force, the American Association of Textile Chemists and Colorists (AATCC), the South Korean Ministry of Food and Drug Safety (MFDS), the Italian Standardization Body (UNI) and the Government of Bangladesh.

**Essential parameters**

The essential parameters presented in this section are the synthesis of the abovementioned regional and national guidance. They include filtration, breathability and fit. Good performance is achieved when the three essential parameters are optimized at the preferred threshold (Figure 2).

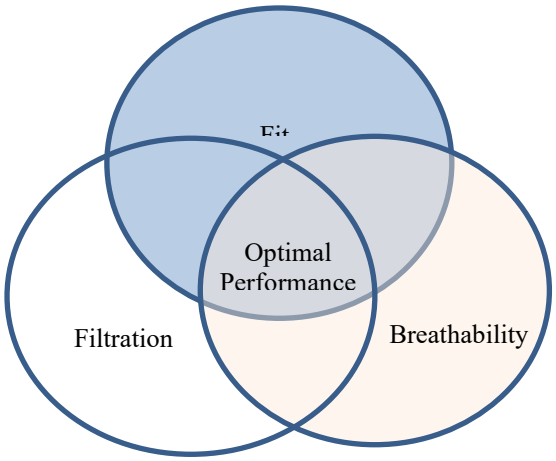


**Figure 2. Illustration of the three essential parameters of filtration, breathability and fit.**

The summary of the three essential parameters can be found in Table 1 and the additional performance considerations in Table 2. The minimum threshold is the minimum acceptable parameter, while the preferred threshold is the optimum.

**Filtration and breathability**

Filtration depends on the filtration efficiency (in %), the type of challenge particle (oils, solids, droplets containing bacteria) and the particle size (see Table 1). Depending on the fabrics used, filtration and breathability can complement or work against one another. The selection of material for droplet filtration (barrier) is as important as breathability. Filtration is dependent on the tightness of the weave, fibre or thread diameter. Non-woven materials used for disposable masks are manufactured using processes to create polymer fibres that are thinner than natural fibres such as cotton and that are held together by partial melting.

Breathability is the difference in pressure across the mask and is typically reported in millibars (mbar) or Pascals (Pa) or, normalized to the $cm^2$ in $mbar/cm^2$ or $Pa/cm^2$. Acceptable breathability of a medical mask should be below 49 $Pa/cm^2$. For non-medical masks, an acceptable pressure difference, over the whole mask, should be below 60 $Pa/cm^2$, with lower values indicating better breathability.

Non-medical fabric masks consisting of two layers of polypropylene spunbond and two layers of cotton have been shown to meet the minimum requirements for droplet filtration and breathability of the CEN CWA 17553 guidance. It is preferable not to select elastic material to make masks as the mask material may be stretched over the face, resulting in increased pore size and lower filtration through multiple usage. Additionally, elastic fabrics are sensitive to washing at high temperatures thus may degrade over time.

Coating the fabric with compounds like wax may increase the barrier and render the mask fluid resistant; however, such coatings may inadvertently completely block the pores and make the mask difficult to breathe through. In addition to decreased breathability unfiltered air may more likely escape the sides of the mask on exhalation. Coating is therefore not recommended.

Valves that let unfiltered air escape the mask are discouraged and are an inappropriate feature for masks used for the purpose of preventing transmission.

**Table 1. Essential parameters (minimum and preferred thresholds) for manufactured non-medical mask**

| Essential Parameters | Minimum threshold | Preferred threshold |
|---|---|---|
| **1. Filtration*** | | |
| **1.1. filtration efficiency** | 70% @ 3 micron | > 70%, without compromising breathability |
| **1.2. Challenge particle** | Solid: sodium chloride (NaCl), Talcum powder, Holi powder, dolomite, Polystyrene Latex spheres<br>Liquid: DEHS Di-Ethyl-Hexyl-Sebacat, paraffin oil | Based on availability |
| **1.3. Particle size** | Choose either sizes:<br>3 µm, 1 µm, or smaller | Range of particle sizes |
| **2. Breathability** | | |
| **2.1. Breathing resistance**** | ≤60 Pa/cm$^2$ | Adult: ≤ 40 Pa/cm$^2$<br>Paediatric: ≤ 20 Pa/cm$^2$ |
| **2.2 Exhalation valves** | Not recommended | N/A |
| **3. Fit** | | |
| **3.1. Coverage** | Full coverage of nose and mouth, consistent, snug perimeter fit at the nose bridge, cheeks, chin and lateral sides of the face; adequate surface area to minimize breathing resistance and minimize side leakage | Same as current requirements |
| **3.2 Face seal** | Not currently required | Seal as good as FFR (respirator):<br>Fit factor of 100 for N95<br>Maximum Total Inward Leakage of 25% (FFP1 requirement) |
| **3.2. Sizing** | Adult and child | Should cover from the bridge of the nose to below the chin and cheeks on either side of the mouth<br>Sizing for adults and children (3-5, 6-9, 10-12, >12) |
| **3.3Strap strength** | | > 44.5 N |

* Smaller particle may result in lower filtration.
** High resistance can cause bypass of the mask. Unfiltered air will leak out the sides or around the nose if that is the easier path.

**Fit: shape and sizing**

Fit is the third essential parameter, and takes into consideration coverage, seal, sizing, and strap strength. Fit of masks currently is not defined by any standard except for the anthropometric considerations of facial dimensions (ISO/TS 16976-2) or simplified to height mask (South Korean standard for KF-AD). It is important to ensure that the mask can be held in place comfortably with as little adjustment of the elastic bands or ties as possible.

Mask shapes typically include flat-fold or duckbill and are designed to fit closely over the nose, cheeks and chin of the wearer. Snug fitting designs are suggested as they limit leaks of unfiltered air escaping from the mask (148). Ideally the mask should not have contact with the lips, unless hydrophobic fabrics are used in at least one layer of the mask (148). Leaks where unfiltered air moves in and out of the mask may be attributed to the size and shape of the mask (171).

**Additional considerations**

Optional parameters to consider in addition to the essential performance parameters include if reusable, biodegradability for disposal masks, antimicrobial performance where applicable and chemical safety (see Table 2).

Non-medical masks intended to be reusable should include instructions for washing and must be washed a minimum of five cycles, implying initial performance is maintained after each wash cycle.

Advanced fabrics may be biodegradable or compostable at the end of service life, according to a recognized standard process (e.g., UNI EN 13432, UNI EN 14995 and UNI / PdR 79).

Manufacturers sometimes claim their NM masks have antimicrobial performance. Antimicrobial performance may be due to coatings or additives to the fabric fibres. Treated fabrics must not come into direct contact with mucous membranes; the innermost fabric should not be treated with antimicrobial additives, only the outermost layer. In addition, antimicrobial fabric standards (e.g., ISO 18184, ISO 20743, AATCC TM100, AATCC 100) are generally slow acting. The inhibition on microbial growth may take full effect after 2- or 24-hour contact time depending on the standard. The standards have generally been used for athletic apparel and substantiate claims of odour control performance. These standards are not appropriate for non-medical cloth masks and may provide a false sense of protection from infectious agents. If claims are maid, manufacturers should specify which standard supports antimicrobial performance, the challenge organism and the contact time.

Volatile additives are discouraged as these may pose a health risk when inhaled repeatedly during wear. Certification according to organizations including OEKO-TEX (Europe) or SEK (Japan), and additives complying with REACH (Europe) or the Environmental Protection Agency (EPA, United States of America) indicate that textile additives are safe and added at safe levels.

**Table 2. Additional parameters for manufactured non-medical masks**

| Additional parameters | Minimum thresholds |
|---|---|
| If reusable, number of wash cycles | 5 cycles |
| Disposal | Reusable<br>If biodegradable (CFC-BIO), according to UNI EN 13432, UNI EN 14995 |
| Antimicrobial (bacteria, virus, fungus) performance | ISO 18184 (virus)<br>ISO 20743 (bacteria)<br>ISO 13629 (fungus)<br>AATCC TM100 (bacteria) |
| Chemical safety | Comply with REACH regulation, including inhalation safety |



WHO reference number: WHO/2019-nCoV/IPC_Masks/2020.5

# PRODUKTIE 4

***MINISTERIE VAN VOLKSGEZONDHEID***
***In***
***De Republiek Suriname***

**Directie en Centrale**
**Administratie**

Paramaribo, 19 januari 2021

**No:** 5362 MVO
Bijlagen:
Onderwerp: ***Aanmaning: Gebruik van mond-neusbedekking geldt ook voor personeel***

Aan: de directies van alle bedrijven in Suriname

Geachte directie,

In de praktijk is gebleken dat bedrijven het gebruik van mond- en neusbedekking verplicht stellen voor bezoekers, maar nalaten erop toe te zien dat ook het personeel zich op de werkvloer zich houdt aan deze verplichting.

Middels dit schrijven wordt benadrukt dat het dragen van een mond-neusbedekking ook verplicht gesteld is voor personeel op de werkvloer. Uit onderzoeken van het BOG en het Outbreak Management Team is gebleken dat er een aantal besmettingen op de werkvloer plaatsvinden, doordat medewerkers onderling nalaten om zich te houden aan de preventieve maatregelen zoals het gebruik van mond-neusbedekking, onderlinge afstand houden (minimaal 1.5meter) en desinfecteren van handen. Collega's onderling kunnen elkaar ook besmetten.

De boete voor overtreding van de verplichting van het gebruik van mond-neusbedekking is gesteld op SRD150,- per overtreding per persoon.

U wordt als directie op het hart gedrukt om erop toe te zien dat voornoemde maatregelen door zowel bezoekers, maar vooral ook door personeel strikt worden nageleefd. Hiermee voorkomt u dat het virus binnen uw bedrijf wordt verspreid, met alle consequenties voor de gezondheid van uw medewerkers en financiële consequenties voor uw bedrijf van dien.

Samen strijden wij tegen COVID-19.

Hoogachtend,

**De Minister van Volksgezondheid,**

Ministerie van Volksgezondheid SURINAME

**Drs. Amar RAMADHIN**

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# PRODUKTIE 5

Special Article

# FIFTY YEARS LATER: THE SIGNIFICANCE OF THE NUREMBERG CODE

EVELYNE SHUSTER, PH.D.

THE Nuremberg Code is the most important document in the history of the ethics of medical research.[1-6] The Code was formulated 50 years ago, in August 1947, in Nuremberg, Germany, by American judges sitting in judgment of Nazi doctors accused of conducting murderous and torturous human experiments in the concentration camps (the so-called Doctors' Trial).[7] It served as a blueprint for today's principles that ensure the rights of subjects in medical research. Because of its link with the horrors of World War II and the use of prisoners in Nazi concentration camps for medical experimentation, debate continues today about the authority of the Code, its applicability to modern medical research, and even its authorship.[1,2,4,5,8] The chief prosecutor at the Doctors' Trial, General Telford Taylor, believed that one of the three U.S. judges, Harold Sebring, was the author of the Code.[2] Two American physicians who helped prosecute the Nazi doctors at Nuremberg, Leo Alexander and Andrew Ivy, have each been identified as the Code's author.[5,8-11] A careful reading

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## THE NUREMBERG CODE

1. The voluntary consent of the human subject is absolutely essential.

   This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, overreaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.

   The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.

2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.
3. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.
4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
5. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.
6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
7. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.
8. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.
9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.
10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill, and careful judgment required of him, that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.

of the transcript of the Doctors' Trial, background documents, and the final judgment reveals that authorship was shared and that the famous 10 principles of the Code grew out of the trial itself.

In this article I will explain the important role that physicians had in the prosecution of the Nazi doctors and in the formulation of the Nuremberg Code and summarize how medical researchers have used the Code as a guide over the past five decades.

## THE DOCTORS' TRIAL

The main trial at Nuremberg after World War II was conducted by the International Military Tribunal. The tribunal was made up of judges from the four allied powers (the United States, Britain, France, and the former Soviet Union) and was charged with trying Germany's major war criminals. After this first-of-its-kind international trial, the United States conducted 12 additional trials of representative Nazis from various sectors of the Third Reich, including law, finance, ministry, and manufacturing, before American Military Tribunals, also at Nuremberg. The first of these trials, the Doctors' Trial, involved 23 defendants, all but 3 of whom were physicians accused of murder and torture in the conduct of medical experiments on concentration-camp inmates.[7]

The indictment of the defendants was filed on October 25, 1946, 25 days after the conclusion of the first Nuremberg trial by the International Military Tribunal. The Doctors' Trial began on December 9, 1946, and ended on July 19, 1947. The case was heard by three judges and one alternate. Thirty-two prosecution witnesses and 53 defense witnesses, including the 23 defendants, testified. A total of 1471 documents were introduced into the record. Sixteen of the 23 defendants were found guilty; 7 of them were sentenced to death by hanging, 5 to life imprisonment, 2 to imprisonment for 25 years, 1 to imprisonment for 15 years, and 1 to imprisonment for 10 years. Seven were acquitted. The sentences were confirmed by the military governor, and, after the U.S. Supreme Court declined to review the case, the executions were carried out at the Landsberg prison.

For the United States and its chief prosecutor, Telford Taylor, the trial was a murder trial (and murder had been identified by the International Military Tribunal as a crime against humanity). Nonetheless, as Taylor pointed out in his opening statement, this was "no mere murder trial," because the defendants were physicians who had sworn to "do no harm" and to abide by the Hippocratic Oath.[12] He told the judges that the people of the world needed to know "with conspicuous clarity" the ideas and motives that moved these doctors "to treat their fellow human beings as less than beasts," and that "brought about such savageries" so that they could be "cut out and exposed before they become a spreading cancer in the breast of humanity."[12] One recurring theme was the relevance of Hippocratic ethics to human experimentation and whether Hippocratic moral ideals could be an exclusive guide to the ethics of research without risk to the human rights of subjects. In the trial's exploration of ideas that shaped medical-research ethics, three physicians had central roles: Leo Alexander, an American neuropsychiatrist, Werner Leibbrand, a German psychiatrist and medical historian, and Andrew Ivy, a renowned American physiologist.

### Leo Alexander

Leo Alexander, a Viennese-born American physician, had joined the U.S. Army Medical Corps in 1942, before being stationed in England at the American Eighth Air Force base. At the end of the war, Alexander was sent on a special mission under the Combined Intelligence Objectives Sub-Committee, an intelligence organization with members from several nations, and charged by orders from Supreme Headquarters of Allied Expeditionary Forces to gather evidence for the Nuremberg trials. Two days before the opening of the Doctors' Trial, Alexander gave Taylor a memorandum entitled "Ethical and Non-Ethical Experimentation on Human Beings," in which he identified three ethical, legal, and scientific requirements for the conduct of human experimentation.[9] The first requirement established the right of the competent experimental subject to consent or refuse to participate in these terms: "the subject should be willing to undergo the experiment of his own free will. . . ." The second focused on the duty of physicians as expressed in the Hippocratic Oath, which Alexander restated in research terms: "the medical Hippocratic attitude prohibits an experiment if the foregone conclusion, probability or a priori reason to believe exists that death or disabling injury of the experimental subject will occur." The third characterized good research practices.

On April 15, 1947, Alexander gave Taylor a second memorandum.[9,11] In it he set forth in greater detail six specific conditions for ethically and legally permissible experiments on human beings. The first stated that

> the legally valid voluntary consent of the experimental subject is essential. This requires specifically the absence of duress, sufficient disclosure on the part of the experimenter and sufficient understanding on the part of the experimental subject of the exact nature and consequences of the experiment for which he volunteers, to permit an enlightened consent.

The five other conditions established the humanitarian nature and purpose of the experiment and the scientific integrity and obligations of the investigator to the welfare of the subject.

**Werner Leibbrand**

On January 27, 1947, Werner Leibbrand, a German psychiatrist and medical historian at Erlangen University, opened the debate on medical ethics at Nuremberg.[12] He explained to the court that German physicians at the beginning of the 20th century had adopted a "biologic thinking" according to which a patient was a series of biologic events, and nothing more than "a mere object, like a mail package."[12] Leibbrand insisted that such a view precluded any human relation between physicians and their patients and that it represented a perversion of Hippocratic ethics and "a lack of morality and reverence for human life."[12] He strongly condemned physicians who conducted experiments on subjects without their consent, and testified that this was also the result of biologic thinking.

During cross-examination, defense lawyers asserted that "civilized" nations such as France, the Netherlands, Britain, and the United States had performed dangerous medical experiments on prisoners, often without their consent. They cited American malaria experiments[12-14] to argue that Nazi physicians had followed common research practices. Leibbrand replied that this American research also was wrong because "prisoners were in a forced situation and could not be volunteers."[12] Leibbrand insisted that "the morality of a physician is to hold back his natural research urge which may result in doing harm, in order to maintain his basic medical attitude that is laid down in the Oath of Hippocrates."[12] This strong accusation of American research by the prosecution's first medical-ethics witness created major unanticipated problems for the prosecution. It therefore became necessary to broaden the scope of the trial by defining the conditions under which risky human experimentation is ethically permissible.

Defense lawyers explained that Nazi doctors were ordered by the state to conduct such experiments as the high-altitude, hypothermia, and seawater experiments on inmates at the Dachau concentration camp to determine how best to protect and treat German fliers and soldiers. They contended that these experiments were necessary and that the "good of the state" takes precedence over that of the individual.[12] Leibbrand replied that "the state could order deadly experiments on human subjects, but the physicians remained responsible for [not] carrying them out."[12] Once these physiologic experiments became the centerpiece of the trial, reliance on psychiatrists alone was not possible. The prosecution needed a prestigious medical scientist who was an authority on research physiology and whose wartime scientific interests corresponded to those of the Nazi doctor defendants. This expert was Andrew Ivy.

**Andrew Ivy**

Andrew Ivy was an internationally known physiologist and a noted scientist. He also had first-hand knowledge of the Stateville Penitentiary experiments on malaria[12,13] in his home state of Illinois, which the Nazi defendants attempted to liken to those performed on concentration-camp inmates. When the secretary of war, through the surgeon general of the army, asked the board of trustees of the American Medical Association to nominate a medical advisor to the Nuremberg prosecution, Ivy emerged as the natural nominee. On June 12, 1947, Ivy came to Nuremberg for the third time, this time to testify in rebuttal for the prosecution. His testimony, the longest of the trial, lasted four days.[12]

In direct examination, Ivy presented to the judges three research principles that he had formulated at the request of the American Medical Association and which, he said, reflected common research practices.[12] His document entitled "Principles of Ethics Concerning Experimentation with Human Beings," adopted by the American Medical Association House of Delegates in December 1946, read in part:

> 1. Consent of the human subject must be obtained. All subjects have been volunteers in the absence of coercion in any form. Before volunteering, subjects have been informed of the hazards, if any. Small rewards in various forms have been provided as a rule.
> 2. The experiment to be performed must be based on the results of animal experimentation and on a knowledge of the natural history of the disease under study, and must be so designed that the anticipated results will justify the performance of the experiment. The experiment must be such as to yield results for the good of society, unprocurable by other methods of study, and must not be random and unnecessary in nature.
> 3. The experiment must be conducted only by scientifically qualified persons and so as to avoid all unnecessary physical and mental suffering and injury and only after the results of adequate animal experimentation have eliminated any *a priori* reason to believe that death or disabling injury will occur. . . .[15]

Ivy explained that these common-sense principles mirrored the understanding shared by everyone in practice in the medical community.[12] The first principle was that a physician would never do anything to a patient or subject before obtaining his or her consent. Ivy also asserted that, unlike Leibbrand, he did not consider prisoners to be in an inherently coercive situation and thus unable to give consent, because in democratic countries where the rights of individuals are respected, prisoners can always say yes or no without fear of being punished.[12] He testified:

> The American malaria experiments with 800 or more prisoners were absolutely justified, scientifically, legally and ethically even if they bring with them danger to human life. To treat malaria was an important scientific problem,

and so long as the subjects volunteer and are explained the hazards of the experiments, there is no ethical reason against it. . . . If prisoners condemned to death are volunteers, then it was ethical to do just that.[12]

During cross-examination, Ivy acknowledged that there were no written principles of research in the United States or elsewhere before December 1946 and that the principles adopted by the American Medical Association were expressly formulated for the Doctors' Trial.[12] Ivy also recognized that the right of the research subject to withdraw from an experiment may not always exist, as in the malaria experiments in which the subjects had already been infected, or in dangerous experiments in which the subjects could be severely injured or fatally harmed. Ivy agreed with Leibbrand that researchers must refuse to conduct experiments on human beings when ordered by the state in order "to save lives," because in such cases subjects would not be volunteers. He declared that "[t]here is no justification in killing five people in order to save the lives of five hundred" and that "no state or politician under the sun could force [him] to perform a medical experiment which [he] thought was morally unjustified."[12] Ivy also stressed that the state may not assume the moral responsibility of physicians to their patients or research subjects, arguing that "[E]very physician should be acquainted with the Hippocratic Oath [which] represents the Golden Rule of the medical profession in the United States, and, to [his] knowledge, throughout the world."[12] When, finally, defense counsel asked Ivy to reconcile the Hippocratic moral maxim that forbids physicians to "administer a poison to anyone even when asked to do so" with conducting potentially lethal experimental interventions on volunteer subjects, Ivy replied, "I believe this Hippocratic commandment refers to the function of the physician as a therapist, not as an experimentalist, and what refers to the Hippocratic Oath is that he must have respect for life and the human rights of his experimental patient."[12]

## MEDICAL ETHICS AND HUMAN RIGHTS

The judges at Nuremberg, although they realized the importance of Hippocratic ethics and the maxim *primum non nocere,* recognized that more was necessary to protect human research subjects. Accordingly, the judges articulated a sophisticated set of 10 research principles centered not on the physician but on the research subject. These principles, which we know as the Nuremberg Code, included a new, comprehensive, and absolute requirement of informed consent (principle 1), and a new right of the subject to withdraw from participation in an experiment (principle 9). The judges adopted much of the language proposed by Alexander and Ivy but were more emphatic about the necessity and attributes of the subject's consent and explicitly added the subject's right to withdraw.

In the traditional Hippocratic doctor–patient relationship, the patient is silent and dutifully obedient to the beneficent and trusted physician.[16-18] Obviously, the patient must seek the physician's help and initiate the therapeutic relationship with the physician.[17] But once patients agree to be treated, they trust that the physician will act in their interest, or at least will do no harm.[17,18] In research, which is outside the beneficent context of the physician–patient relationship, this trust may be misplaced, because the physician's primary goal is not to treat; rather, it is to test a scientific hypothesis by following a protocol, regardless of the patient-subject's best interest. It is therefore only through a conflation of treatment and research that Alexander and Ivy believed they could expand on Hippocratic ethics to protect the rights of subjects in human experimentation.[19,20] Their Hippocratic view of medical research may have prevented them from adequately appreciating the risks to research subjects, which are many times greater than the risks to patients who are merely being treated.[21] Hippocratic ethics, even when supplemented with informed consent, tend to submerge the subject's autonomy into what the physician-investigator thinks is best for the subject.

Informed consent, the core of the Nuremberg Code, has rightly been viewed as the protection of subjects' human rights. The key contribution of Nuremberg was to merge Hippocratic ethics and the protection of human rights into a single code. The Nuremberg Code not only requires that physician-researchers protect the best interests of their subjects (principles 2 through 8 and 10) but also proclaims that subjects can actively protect themselves as well (principles 1 and 9). Most strikingly, for example, in Hippocratic ethics the subject relies on the physician to determine when it is in the subject's best interest to end his or her participation in an experiment. In the Nuremberg Code, the judges gave the subject as much authority as the physician-researcher to end the experiment before its conclusion (principle 9).

## 50 YEARS AFTER NUREMBERG

The Nuremberg Code has not been officially adopted in its entirety as law by any nation or as ethics by any major medical association. Nonetheless, its influence on global human-rights law and medical ethics has been profound.[6] Its basic requirement of informed consent, for example, has been universally accepted and is articulated in international law in Article 7 of the United Nations International Covenant on Civil and Political Rights (1966).[6,22] Informed consent, with specific reliance on the Nuremberg Code, is also the basis of the International Ethical Guidelines for Biomedical Research Involving Human Subjects, the most recent guidelines

promulgated by the World Health Organization and the Council for International Organizations of Medical Sciences (1993).[23]

The World Medical Association, established during World War II, has been accused of purposely trying to undermine Nuremberg in order to distance physicians from Nazi medical crimes.[24] The election of a former Nazi physician and SS member, Hans-Joachim Sewering, to the presidency of that organization in 1992 added credibility to that accusation.[24] (Because of public criticism, Sewering later withdrew.) Nonetheless, the various versions of the Declaration of Helsinki promulgated by the World Medical Association since 1964, although attempting to have peer review supplement informed consent and even supplant it as their central principle in the context of "therapeutic research," all implicitly acknowledge Nuremberg's authority. Both the Nuremberg Code and the Declaration of Helsinki served as models for the current U.S. federal research regulations, which require not only the informed consent of the research subject (with proxy consent sometimes acceptable, as for young children), but also prior peer review of research protocols by a committee (the institutional review board of the hospital or research institution) that includes a representative of the community.[25]

The Nuremberg Code focuses on the human rights of research subjects, the Declaration of Helsinki focuses on the obligations of physician-investigators to research subjects, and the federal regulations emphasize the obligations of research institutions that receive federal funds. Nonetheless, by insisting that medical investigators alone cannot set the rules for the ethical conduct of research, even when guided by beneficence and Hippocratic ethics, and by adopting a human-rights perspective that acknowledges the centrality of informed consent and the right of the subject to withdraw, the Nuremberg Code has changed forever the way both physicians and the public view the proper conduct of medical research on human subjects. Fifty years after Nuremberg, we recognize the human-rights legacy of the Nuremberg Code and are better able to face the critical challenge of applying the Code in its entirety and enforcing its human-rights provisions.

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