

A review of international approaches to schools reopening

Countries around the world are starting to open schools with varying control measures. A review of the approaches used by countries which are at more advanced stages of the outbreak or who have lower cases of covid-19 may offer lessons for the UK.

Phased openings are being implemented in all countries

While South Korea continues to use online tools to teach pupils despite low case numbers, Thailand has extended its vacation to 1st July to give itself sufficient time to plan for a phased opening approach. Denmark and New Zealand have opened schools for most pupils with clear guidelines on control measures despite a short closure of one month. Germany started to physically open schools on May 6th, 2020, although a decentralised regional approach may make a national strategy more difficult.

In Germany, the reproduction rate has risen above 1 for the last 3 days. Although this is not attributed to schools reopening. In Denmark, while Danish authorities previously reported an increase in the R as of May 9, three weeks after schools opened, R had fallen to 0.7 in the first week of May according to the Statens Serum Institut (SSI).

Phased physical return:

All countries are implementing a phased return to school, except in Taiwan where schools did not close nationally because of successful early containment measures. In Denmark and NZ younger children who require adult care are the first to return to school other than the children of essential workers. While in Germany older children who are more capable of social distancing are returning to school first. S Korea and Thailand have not yet opened schools.

Social Distancing:

Social distancing measures are in place in all schools with a minimum number of pupils allowed in classrooms when schools first open. This is only feasible while most pupils continue to work from home. In Denmark, open spaces, and unused spaces such as stadia are being used for teaching purposes.

In NZ, students of all ages will be able to return to school from 14th May 2020, with no restriction on pupil numbers. General social distancing guidelines are provided.

Masks:

In schools that have opened, only Germany is mandating the use of masks in communal areas as per national guidelines

Hygiene measures:

Apparatus for regular handwashing has been made available in all schools that have opened.

Other measures used by countries not profiled:

Phased return:

In Israel, children with special needs are the first to return to schools along with those in grades 1-3

Social distancing:

In Israel, students are not permitted to have physical contact with peers or staff

In eastern China, schoolchildren are provided with hats that measure 3 feet to remind them to keep a safe distance from others

Temperature checking:

In Japan, Taiwan and China staff members are taking student temperatures before entering school buildings

In Beijing, children are provided with personal thermometers and are asked to measure temperature twice per day

Risk of infection

In Israel, parents have to sign a health form confirming their child and/or family members do not have covid-19 before being permitted into school

In Beijing, students fill out a survey on an app that calculates their risk of infection. If the risk is too high they cannot attend school physically

In Shanghai, some schools have designated rooms to isolate students with fever

Hygiene measures:

In Norway, staff members at schools are asked to disinfect classrooms and toys twice a day. Children are not allowed to bring toys to school

In Israel, children cannot check books out of libraries, share food, borrow pencils/pens from other pupils.

Vulnerable groups:

In Israel, staff over 65 years or who have underlying conditions are working from home

Country profiles are provided below

GERMANY

Total population ⁱ	<ul style="list-style-type: none"> 82.79 million
Date of first reported case of COVID-19 ⁱⁱ	<ul style="list-style-type: none"> 25 February 2020
Epidemiological situation ⁱⁱⁱ	<ul style="list-style-type: none"> Confirmed: 172,812 Deaths: 7,667 Recovered: 147,200
School closure date ^{iv}	<ul style="list-style-type: none"> 16th March 2020. This decision was made after an incidence of 1,214 cases in the country and 13 deaths.
Official school opening date ^{iv}	<ul style="list-style-type: none"> The federal government recently announced that it would gradually reopen schools from May 4th 2020. This has now been delayed to May 6th 2020.
Approach to opening ^{ivv,vvii}	<p>Short-term approach:</p> <ul style="list-style-type: none"> There is no federal or regional-level approach. The Robert Koch Institute (RKI) - the public health institute in Germany - recommends a phased approach, with the return of students taking final exams and oldest children at primary school level as a first step. However, German Chancellor Angela Merkel opposes this; preferring that children of all ages return to school at the same time when it is safe to do so. Germany's chief epidemiologist, Christian Drosten, advises against opening schools because of the potentially high viral load in children. A decentralised and inconsistent approach is being implemented across the country. For example, some state schools have already reopened to students in the final two years of school e.g. in North Rhine-Westphalia,

	<p>which has one of the highest rates of Covid-19 cases in the country. These students are in school for one day a week.</p> <ul style="list-style-type: none"> Attendance upon reopening will not be mandatory and so not all students will go back to school on May 6th 2020. <p>Longer-term approach:</p> <ul style="list-style-type: none"> Education ministers published a strategy paper on the 28th of March suggesting that normal schooling will not resume until after the summer holidays, in September. It is suggested that regular school business is not possible because of the 1.5 m distancing rule that is in place. When schools open, a mix of digital and physical learning at school will be introduced – this is dependent on the development of the Covid-19 outbreak. The Leopoldina's – the government's official scientific advisory board - recommend that nurseries stay closed until the end of the summer break in August or September
Guidelines for schools to prevent further spread ^{ivviiiix}	<ol style="list-style-type: none"> The RKI has set non-statutory guidelines for schools to follow to prevent the further spread of Covid-19: A 1.5 meter spacing between desks Facilities for hand washing An adequate supply of disinfectant The ability to uphold personal hygiene - this is, of course, difficult for young children - and standards for institutional hygiene Disallowing constant groups that don't mix in school and breaks – for tracing The wearing of masks - in some cities this is an obligation, but this is recommended for all persons, especially if schools are to reopen. Face masks are now worn in communal areas in line with the national plan One way systems in corridors are used to minimise contact Breaktimes are staggered School days are shorter and mixed with online classes so that different year groups can share classrooms that only hold 10 pupils Ensuring that symptomatic pupils or staff stay at home Documenting school attendance and symptoms for tracing purposes Using a phased approach to school opening State ministers of education are developing similar hygiene measures in the meantime
Requirements for schools to open ^{ivviii}	<ul style="list-style-type: none"> Details on R0, no. of cases to be added, if available. No testing is required before school attendance, In Germany, children rarely get tested because they're often asymptomatic. In Germany, only symptomatic patients are being tested.
Facilitators	<ul style="list-style-type: none"> TBD
Challenges	<ul style="list-style-type: none"> The high number of children in classrooms – up to 32 - make it impossible to socially distance if in full attendance. A decentralised approach is difficult to prepare for
Outcomes to date ^x	<ul style="list-style-type: none"> R rate has risen above 2 for the last 3 days. Lars Schaade of the Robert Koch Institute (RKI) said only if the R value rose above 1.2 or 1.3 for several days would he be worried. This is also because currently fewer than 1,000 Germans are infected per day – a manageable number for Germany. Also, new hotspots look to be in other sectors e.g. meat production

Total population ^{xi}	51.47 million
Date of first reported case of COVID-19 ^{xii}	20 January 2020
Epidemiological situation ^{xiii}	Confirmed: 10,936 Deaths: 258 Recovered: 9,670
School closure date	<ul style="list-style-type: none"> • Phased closure from 1st week of February. Regional education authorities with confirmed cases or those vulnerable to transmission were closed first. • This decision was made after there were fewer than 28 cases and 0 deaths
Official school opening date ^{xivxv}	<ul style="list-style-type: none"> • 9th April 2020 (virtual) • Government schools – including elementary, middle, high and special education schools - have reopened virtually. Originally, the reopening was set for 2nd March 2020. However, this was pushed back four times amid concerns of new cluster infections until 9th April. • Notably, 82% of private “cram” schools were open by 17th April 2020. • Government officials suggest that “physical instruction” will likely start from May 2020.
Approach to opening ^{xiii}	<p>Short-term approach:</p> <ul style="list-style-type: none"> • A phased approach to virtual reopening. <ul style="list-style-type: none"> - Classes are opening by grade level, with third-year high school and third-year middle school students starting on the 9th April 2020. - A larger group of students grades 1—3 and 4-6 in middle and high school returned the following week on 16th April 2020. - Students in elementary school started between 16th and 20th April • Kindergartens remain suspended until specific requirements are met. <p>Longer-term approach:</p> <ul style="list-style-type: none"> • Summer and winter holidays have been adjusted to account for time lost during the lockdown period. • A newly appointed government education task force is developing a long-term reopening strategy in May 2020.
Guidelines for schools to prevent further spread	<ul style="list-style-type: none"> • The RKI has set non-statutory guidelines for schools to follow to prevent the further spread of Covid-19: <ul style="list-style-type: none"> - A 1.5 meter spacing between desks - Facilities for hand washing - An adequate supply of disinfectant - The ability to uphold personal hygiene - this is, of course, difficult for young children - and standards for institutional hygiene - Disallowing constant groups that don't mix in school and breaks – for tracing - The wearing of masks - in some cities this is an obligation, but this is recommended for all persons, especially if schools are to reopen. - Ensuring that symptomatic pupils or staff stay at home - Documenting school attendance and symptoms for tracing purposes
Requirements for schools to open	<ul style="list-style-type: none"> • Details on R₀, no. of cases to be added, if available.
Facilitators	<ul style="list-style-type: none"> • Transparent government communication has been demonstrated by daily press briefings and emergency texts to all citizens. • Online teaching was seen to be feasible due to relatively easy access to laptops and good internet access throughout the country. Online teaching is seen as a positive step that will be leveraged in the future.

	<ul style="list-style-type: none"> Online teaching accounts for vulnerable families of lower socio-economic or those with learning difficulties. Education attainment subsistence is available for families in this category.
Challenges	<ul style="list-style-type: none"> Managing the activity of private “cram” schools has been difficult to manage. Although it doesn’t seem to have impacted the number of cases. Despite accounting for vulnerable families, there are members of society who cannot participate through online learning, potentially worsening any gaps in inequalities

NEW ZEALAND

Total population ^{xvi}	<ul style="list-style-type: none"> 4.88 million
Date of first reported case of COVID-19 ^{xvii}	<ul style="list-style-type: none"> 28 February 2020
Epidemiological situation ^{xv}	<ul style="list-style-type: none"> Confirmed: 1,479 Deaths: 21 Recovered: 1,398
School closure date ^{xviii}	<ul style="list-style-type: none"> 23rd March 2020 This decision was made after an incidence of 52 cases in the country and 0 deaths.
Official school opening date ^{xvii}	<ul style="list-style-type: none"> 29th April 2020
Approach to opening ^{xix}	<p>Short-term approach:</p> <ul style="list-style-type: none"> Phased approach. At the current ‘Alert Level 3’, all children and young people who can stay at home should not attend school. Physical opening for children in primary to secondary school from years 1-10 (aged 5-15 years) who cannot study from home and whose parents must return to work. Although at secondary school level, pupils in years 11-13 (16-18) must continue to learn from home. All children and young people will still have access to distance learning from home. This approach is designed to limit the number of people that children have contact with based on these principles. This is based on the evidence that “children hav[e] a lower risk of getting infected and being affected by COVID-19, and it is possible to ensure that children are within the same group each day with no mixing between groups”. The current public health approach is to limit this “school bubble” to 10 children, but this could be increased to up to 20 children once processes are confidently in place. Early learning centres (nursery level) are opened with stricter control measures in place. <p>Longer-term approach:</p> <ul style="list-style-type: none"> Summer and winter holidays have been adjusted to account for time lost during the lockdown period. Full school attendance is subject to a lowering of the alert system <p>NZ has changed its Covid-19 alert level from 3 to 2 and so all children are returning to school from 14th May 2020, with the exception of those who are sick or who are asymptomatic with covid-19 are in isolation or are awaiting test results.</p>
Guidelines for schools to prevent further spread ^{xxxxi}	<p>Clear government non-statutory guidelines are available on the Ministry of Education website. The guidelines state that:</p> <ol style="list-style-type: none"> Students must stay home if asymptomatic

	<ol style="list-style-type: none"> 2. Schools must observe physical distancing requirements, including 1m inside and 2m outside. 3. There must be processes in place to support contact tracing 4. Hygiene requirements, such as the availability of hand sanitiser, regular hand washing and cleaning of surfaces 5. There should be staggered entry times to classrooms 6. Staggered break times should be regulated 7. Students must sit in the same place each day 8. There must be limits on the “size of the bubble”, i.e. the number of children in schools to 10, then eventually 20 9. Physical education classes are limited to ensure social distancing 10. Pupils and staff who are in at-risk groups are required to stay at home 11. Notably, no PPE is not mandated in schools <p>Schools must implement public health control measures under alert 2 before allowing children back into school. These are the same as above (alert 3 measures) with the exception of maximum student numbers. Social distancing measures now state “Where possible, children, young people and staff should be far enough away from each other, so that they are not breathing on, or touching each other”</p>
Requirements for schools to open ^{xxii}	<ul style="list-style-type: none"> • Covid-19 Alert level 3: In this “restrict” phases, there is a risk that community transmission might still be happening and that new clusters may emerge but can be controlled through testing and contact tracing
Facilitators	<ul style="list-style-type: none"> • Early school closures before high transmission rates • Relatively small and low-density population • Clear and transparent government advice is readily available for all schools and citizens to access
Challenges	<ul style="list-style-type: none"> • All guidelines are non-statutory which may result in varying approaches across the schools in the country. Poor results may be seen in neighbourhoods of low socioeconomic status.

DENMARK

Total population ^{xxiii}	<ul style="list-style-type: none"> • 5.79 million
Date of first reported case of COVID-19 ^{xxi}	<ul style="list-style-type: none"> • 22 February 2020
Epidemiological situation ^{xxiv}	<ul style="list-style-type: none"> • Confirmed: 10,591 • Deaths: 533 • Recovered: 8,328
School closure date ^{xxi,xxv}	<ul style="list-style-type: none"> • 23rd March 2020 • This decision was made after 1,144 cases and 6 deaths in the country.
Official school opening date ^{xxiii}	<ul style="list-style-type: none"> • 15th April 2020
Approach to opening ^{xxvi xxvii}	<p>Short-term approach:</p> <ul style="list-style-type: none"> • Day-care facilities opened from 15 April 2020 when individual local councils considered it safe. • The approach was agreed with teachers’ unions, local authorities and government • Pupils from pre-school (<3 years old) to fifth grade (11 years old) and those with special needs from all grades were also able to return to school.

	<ul style="list-style-type: none"> • Before- and after-school care (for pupils up to the fifth grade) opened at the same time.
Guidelines for schools to prevent further spread ^{xxviii} ^{xxix}	<ul style="list-style-type: none"> • The Ministry of Children and Education and the Ministry of Health issued statutory guidelines for the safe reopening process taking into account the need to maintain good health at day-care facilities and schools. • Desks are spaced six feet apart • Micro-groups of approximately 12 pupils arrive at separate times to other groups, eat lunch separately, stay in distinct zones in the playground, use different entrances/exits and are taught by separate teachers. This is similar to the “bubble” approach used in NZ. • Primary and lower secondary schools normally occupy the same building and so with secondary school children working from home, there is room to spread out younger pupils in one building. • Parents are not allowed to enter school buildings • Hourly handwashing and sterilising is being implemented <ul style="list-style-type: none"> - Handwashing stations have been installed outside buildings - Note this is causing skin irritation and eczema in some students • Masks are NOT used in schools – the emphasis is on social distancing and hygiene policies • Teachers at risk or who have family members in the vulnerable category are teaching online classes from home • Where possible lessons are conducted outdoors or in non-used spaces, e.g. stadiums
Requirements for schools to open ^{xxx}	<ul style="list-style-type: none"> • Covid-19 Alert level 3: In this “restrict” phases, there is a risk that community transmission might still be happening and that new clusters may emerge but can be controlled through testing and contact tracing
Facilitators	<ul style="list-style-type: none"> • Early school closures before high transmission rates • Relatively small and low-density population • Clear and transparent government advice is readily available for all schools and citizens to access
Challenges	<ul style="list-style-type: none"> • All guidelines are non-statutory which may result in varying approaches across the schools in the country. • Poor results may be seen in neighbourhoods of low socioeconomic status. • Although there was hesitation from parents in the first few weeks, the public “mood” has shifted and parents are more open to sending their children to schools
Outcome to date ^{xxix} ^{xxx} ^{xxxi} ^{xxxii}	<ul style="list-style-type: none"> • Danish authorities previously reported an increase in the reproduction (R) rate of Covid-19, from 0.6 to 0.9 per cent • Two weeks post-opening, Christian Wejse, a scientist in the Department of Infectious Diseases at Aarhus University, said, “There are no signs whatsoever that the partial reopening has caused a bigger spread of infection.” • As of May 9, three weeks after schools opened, the trend of new cases across the country has decreased (# active case on 15th April was 3,624 and it is now at 1,652) • Importantly, R had fallen to 0.7 in the first week of May according to the Statens Serum Institut (SSI)

Thailand

Total population ^{xxxiii}	<ul style="list-style-type: none"> • 69,776,721
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Date of first reported case of COVID-19 ^{xxi}	<ul style="list-style-type: none"> 13 Jan 2020
Epidemiological situation ^{xxxiv}	<ul style="list-style-type: none"> Confirmed: 3017 Death: 56 Hospitalized: 163 Recovered: 2798
School closure date ^{xxi,xxxv}	The spread of Covid-19 peaked during the long school vacation - which started at the beginning of April 2020 -, therefore the government postponed the school reopening date to 1 July 2020. This gave Thailand an opportunity to learn from other countries on education provision during the pandemic.
Official school opening date ^{xxiii}	<ul style="list-style-type: none"> 1 July 2020
Approach to opening ^{xxxvi}	<p>Phased approach consisting of 4 stages</p> <ul style="list-style-type: none"> Preparation stage (7 April – 17 May 2020): surveying the readiness in terms of learning technologies for remote learning. Pilot stage of remote education: (18 May – 30 June 2020) In the pilot project, kindergarten to secondary-school students will learn through Distance Learning TV (DLTV) and computer software. The preliminary evaluation and readjustment will be executed. School opening: (1 July 2020 – 30 April 2021) This stage has been divided into two scenarios according to the severity of the situation under the provincial administration. If the situation resolves, in-class education will be implemented under physical distancing policy, environmental and behavioural measures. However, if the pandemic persists, online distance learning through DLTV and online platform will be applied. Examination and further education: (1 April 2021 – 15 May 2021) Organization related to higher education, central admission system or education assessment will be called to provide a new way of assessment/admission. <p>Compensatory teaching</p> <ul style="list-style-type: none"> Schools can choose at least one of the following choices to compensate lost teaching time for student. <ul style="list-style-type: none"> Increase learning hours in school which can be both official days and holidays Learning from home using set assignments Online learning
Guidelines for schools to prevent further spread ^{xxxvii}	<ul style="list-style-type: none"> Ministry of Education, in partnership with UNICEF, published the guideline for preventing the spread of Covid-19. This guideline includes behavioural, environmental and administrative considerations for Covid-19 prevention in school. Thailand Development Research Institute proposed 6 policies for school reopening <ol style="list-style-type: none"> The reopening decision should be flexibly considered on the basis of the epidemiological situation in the area. Schools' environment should be developed in terms of 1-meter spacing, 10 air-change ventilation. Access to education should be evaluated in order to provide a proper education intervention/technology like tablet to students that are not likely to learn without proper support Technology provision for high-risk or low-resourced students Public health measures (behavioural) should be strictly implemented in school. The school should work closely and communicate effectively with parents on how to continue education as seamless as possible
Requirements for schools to open ^{xxxviii}	The reopening of school will be administered by the 77 provincial committee that makes decisions according to overall epidemiologic

	<u>situations in specific geographic contexts which are rated and labelled by the colour codes; dark green, light green, yellow, orange and red in respect to situation's severity.</u>
Facilitators	<ul style="list-style-type: none"> • The national steering committee comprises of both epidemiologists, medical experts and politicians. Therefore, the unity of actions and evidence-based decisions has been encouraged. Before this committee was appointed, the situation was mostly manipulated by political powers more than scientific knowledge. As a result, the government response was quite contradicting and confused for policy implementors. • Considerable compliance from people in using proper PPE and physical distancing policy. • The existing primary care with over 1,000,000 village health volunteers strengthened the surveillance system throughout the country and facilitated drug delivery to the community, reducing people contact in health facilities while adequately responded to other health needs than Covid-19.
Challenges	<ul style="list-style-type: none"> • Social security measures to absorb the economic shock is inadequate in the long run due to lack of financing. Going to school might be unaffordable for some families.

Taiwan

Total population ^{xxxix}	<ul style="list-style-type: none"> • 23.59 million
Date of first reported case of COVID-19 ^{xl}	<ul style="list-style-type: none"> • 31 December 2019
Epidemiological situation ^{xli}	<ul style="list-style-type: none"> • Confirmed: 440 • Deaths: 7 • Recovered: 372
School closure date ^{xlii}	<ul style="list-style-type: none"> • Since Taiwan was able to effectively contained the spread of COVID-19, national policies did not mandate widespread planned school closures. Instead, Taiwan instituted class suspensions, and subsequently local temporary school closures, based on low thresholds for infected cases within individual schools.
Official school opening date	<ul style="list-style-type: none"> • As above
Approach to opening ^{xliii,xliv}	<p>Short-term approach:</p> <ul style="list-style-type: none"> • Ministry of Education will continue distributing free face masks, spraying alcohol, and ear thermometers to public and private shhools, and after-school learning centres. • Some schools have taken extra measures e.g. unscheduled visitors are not allowed to enter campus, and one university transfer all of its courses online in April

Guidelines for schools to prevent further spread ^{xlv}	<ul style="list-style-type: none"> • Temperature checks before entering the schools • Hygiene practices such as washing hands and wearing masks are encouraged • Student exchange programmes and activities with China have been suspended since 9 February 2020, • Students from China, Hong Kong, and Macau have tentatively not been allowed to Taiwan since 11 February 2020 • Students or staff who have contacted with confirmed cases are asked to self-quarantine for 14 days and their health status are checked by medical staffs daily • Distance learning education courses are provided to home-quarantined students • Free school meals for low-income students are replaced by food vouchers
Requirements for schools to open ^{xlvi}	When the 14-day quarantine period has ended, and authorisation is provided from the Taiwan CDC, individual schools can open
Facilitators ^{xlvixlviii}	<ul style="list-style-type: none"> • Clear and transparent government advice is readily available for all schools and citizens to access • Taiwan integrated its national health insurance database with its immigration and customs database, which helps case identification by real-time alerts during a clinical visit based on travel history and clinical symptoms. • The government bought all domestic mask production and therefore create a large stockpile of face masks for rationing purchases.
Challenges	<ul style="list-style-type: none"> • N/A

Australia

Total population	<ul style="list-style-type: none"> • 24.99 million
Date of first reported case of COVID-19	<ul style="list-style-type: none"> • 15th February 2020
Epidemiological situation	<ul style="list-style-type: none"> • Confirmed: 7,054 • Deaths: 99 • Recovered: 6,392 <p>Low levels of community transmission</p>
Tests	<ul style="list-style-type: none"> • Total #: 1,059,801 • Tests/1M pop: 41,621 • One of the highest testing rates in the world
School closure date	In Australia, schools were never closed as per advice from the Australian Health Protection Principal Committee. However, some independent and private schools chose to close. On 22-23 March, some state governments enacted

Official school opening date	<ul style="list-style-type: none"> • However, in March, after the release of the federal government released their response plan for covid-19 which stated that state and territory governments are responsible for operational aspects of social distancing, some state governments brought forward school holidays and asked pupils who could work from home to do so to allow them to implement social distancing and appropriate hygiene measures. • Since the new term started in April, schools have been open to students, but parents were free to use online learning tools if preferred. • However from this week school attendance has been made compulsory in Western Australia to those who are not in any high-risk categories or with chronic health issues.
Approach to opening	<ul style="list-style-type: none"> • Phased optional to mandatory opening of schools
Guidelines for schools to prevent further spread	<p>The Australian Health Protection Principal Committee (AHPPC) issued guidance on:</p> <ul style="list-style-type: none"> • Physical distancing, e.g. staggered drop off times • Shielding at risk and vulnerable groups, e.g. people over 65 years and those with chronic medical conditions and Aboriginal Torres Strait Islander people over 50 with chronic medical conditions • Hygiene policies: regular hand washing and increased supply of soap and hand sanitiser • Reporting suspected and confirmed cases to a national helpline • Environmental cleaning • Psychological wellbeing • Good communication • Social distancing in classrooms and in the playground • Classroom decluttering: removal of paper, resources, equipment, phones • Symptomatic children/staff to stay home
Requirements for schools to open	<p>When the 14-day quarantine period has ended, and authorisation is provided from the Taiwan CDC, individual schools can open</p>
Facilitators	<ul style="list-style-type: none"> • Clear and transparent government advice is readily available for all schools and citizens to access • Taiwan integrated its national health insurance database with its immigration and customs database, which helps case identification by real-time alerts during a clinical visit based on travel history and clinical symptoms. • The government bought all domestic mask production and therefore create a large stockpile of face masks for rationing purchases.
Challenges	<ul style="list-style-type: none"> • N/A

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