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PAPER BY

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SUMMARY

This paper discusses ~~public health~~ measures which could be employed to supplement our COVID-19 response through the UK Border, and sets out a proposal and pathway for delivering a timely policy response.

- Currently, the number of cases arriving from other countries comprises under 1% of all cases in the UK, meaning that amending the ~~public health~~ approach at the border will have limited relative effect until the rate of transmission within the UK has gone down, and levels of international travel have increased.
- Work is required to determine how we will assess that ~~this~~ any relevant 'tipping point' has been reached, and whether and how best to phase in effective measures.
- If changes are to be made, current public health advice is that the most effective option would be a form of mandatory quarantine/self-isolation upon arrival in the UK. This would involve significant resources and complexity to execute, including consideration of the impact on the movement of crucial imports and on our programme for the repatriation of UK nationals overseas.
- Internationally, FCO expect that most partners would be understanding if we implement new border measures, but this will depend on the scientific basis for the measures, their similarity with other European countries, and the level of coordination with partner governments.

SECTION 1: AVAILABLE MEASURES

Theoretical~~Our~~ public health options through the border can be categorised as international upstream measures employed well before individuals travel to the UK, and measures taken at the border and subsequently when individuals are in the UK. These are discussed below, and Annex A sets out the full detail for each.

International Upstream Measures

1. CARRIER HEALTH SCREENING AT THE POINT OF DEPARTURE [prior to departure to the UK]
   There are concerns about the effectiveness of this measure due to the prevalence of false negatives. However, if in place there is much stronger evidence from WHO and SAGE that exit screening prior to departure to the UK is of more benefit than screening passengers on arrival. Screening upon departure also helps to mitigate transmission in aircraft, although this does require strong international cooperation which may take time to ensure is sufficiently robust.

Commented [HJ1]: The paper describes measures but very few are supported by effectiveness as public health interventions. I think we need to be clear where there is evidence and where there is not. Such precision may appear 'unhelpful' to policy development currently, but it may in time be a safeguard to prevent future inability to undo interventions in due course

Commented [HJ2]: Evidence for this figure? I would think its quite generous and the estimate is well under 0.5% - at last SAGE review it was 0.5% when UK community cases were lower and prior to slump in passenger numbers to the current 15000 per day.

Commented [HJ3]: See above

Commented [HJ4]: The original wording here implies that there *IS* a tipping point at which a measure would become relevant.

Commented [VTJ5]: The only effective option

Commented [HJ6]: As above –in the main most interventions cited are NOT PH interventions ie they do not improve or control ph outcomes.

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Commented [HJ7]: 'this measure' is not described. If we are going to include options for Ministers eg 'carrier health screening' there should be a definition or description either here or in an annex to ensure all those considering options are comparing like with like. This is a known failure of many international discussions on border measures – ie people talking about entirely different interventions and not referring to the basic evidence base with each. What is the false negative referring to? Is it a specific test? Or a verbal health assessment? Or a physical health assessment?

Commented [VTJ8]: I forgot to add that WHO's take is that exit screening is really something to be considered when a pandemic is emerging, and not when it's already widely disseminated across the globe, as now.

Carriers are already required to carry out a health assessment of every passenger, and refuse boarding to any individual showing symptoms. For international rail, the most immediate and important consideration is the impact that checks would have on traffic flow and queues for Eurotunnel Le Shuttle freight services. Engagement with Eurotunnel, road haulage operators and the French government would be needed as soon as possible to understand how impacts on critical freight could be minimised, and to discuss funding with the French government.

2. SELF VALIDATION FORMS (Traveller health declarations)

This measure would involve inbound travellers, either from all locations or from high-risk countries/areas, producing a health declaration form upon arrival.

This measure would be likely to have a limited effect, and result in a high number of individuals carrying Covid-19 entering the UK undetected. This is because self-declaration forms would be likely to be based on symptoms that an individual has or has not displayed in the last (7?) days. There is an initial concern around the list of symptoms used, as this varies greatly from country to country. Furthermore, a high number of asymptomatic passengers, or those yet to display significant symptoms, would travel undetected.

It should also be noted that there is currently insufficient capacity at UK borders in terms of clinical (and potentially also language) access to routinely implement this measure effectively. There is also the risk that individuals do not complete forms honestly.

3. MEDICAL CERTIFICATION

This measure would require travellers to provide on arrival medical certificates with microbiological test results confirming that they do not have the virus.

It should be noted that, while this could be an effective measure in principle, we currently lack sufficient testing capability. There are not microbiological tests which can confirm you don't have the virus except in the last 24-48 hours of infection, hence there would be a high number of false negatives from individuals who have the virus, but in whom it is not yet detectable.

There is a risk that people who have not had ready access to medical facilities prior to travel will be adversely impacted. For example, this would impact British nationals on board cruise ships or looking to be repatriated from countries that do not have ready access to testing. There would also be significant resourcing implications to collecting any new information.

At the border and in country

4. SCREENING ON ARRIVAL IN THE UK (inc temperature checks)

Screening upon arrival is proven to be less effective than screening upon departure (above). If exit screening is used in other countries, entry screening only picks up people who have developed symptoms during their journey. Due to the incubation period, this measure may fail to detect if a virus has been transmitted to other passengers in the aircraft, especially on short haul flights.

Commented [VTJ9]: 14

Commented [VTJ10]: It is also possible that recently recovered but still shedding virus passengers may be missed.

Commented [HJ11]: This sentence (unlike subsequent comments) suggests passengers will arrive with some sort of prepared medical certificate. This would require us/BF/other border staff to be fully assured which certificates from which countries with which results were acceptable. Forged documents would be likely. The UK may well not have detailed understanding of the comparable quality of PCR testing applied in other countries

Commented [VTJ12]: Hold on this is not logical who is testing? Us on arrival or them before departure? If them, then our lack of testing capability (we) is not relevant.

Commented [VTJ13]: I think you mean to say a test done even 24 hrs prior to departure can miss someone who was pre-symptomatic at the time; and a test done on arrival can equally do the same.

Commented [VTJ14]: Also the test is a PCR. If it's us testing, takes 6hrs to run once it gets to the lab so with specimen transport 24hrs would be quick end to end. You'll have to hold passengers at the port whilst you do this. Or you'll never find them again if tourists.

Commented [VTJ15]: We can be clearer here. Modellers say 30% or so of infections might be detected at max (check with SPI-M). Also USA screened 47000 in January and found zero cases that way. There are some pretty damaging but honest statistics we can use here)

From 22 January, the UK introduced measures to 'screen' passengers from Wuhan, then later from mainland China and from 'hot spot' countries (see Annex A for details). We could add the use of temperature checks to this list, and expand the use of screening to arrivals from other/all destinations.

Screening systems for inbound passengers could be adapted to reflect the quality of contact tracing and testing in the countries from which they are travelling. The UK is already applying a stratified approach to screening inbound passengers, focusing on countries with high rates of community transmission.

Advice from SAGE and NERVTAG shows that screening measures have low efficiency on the basis that they will miss a large proportion of cases due to individuals not, or not yet, being symptomatic.

There are also a number of implementation and compliance issues, for example with individuals taking medication such as aspirin that can hide symptoms for a period of time.

In the **maritime sector**, this process could be relatively easy to deliver. However, port teams do not currently have the training, equipment or PPE to effectively deliver this, hence significant work will be required with Port Health Authorities to ensure clear guidance and training is provided.

For **international rail**, screening following arrival in UK would require additional layers of staffing to conduct screening, and raises questions about what to do with passengers that test positive; more viable option could be to test prior to departure.

In terms of legislative requirements to implement this measure, the Coronavirus Act 2020 established the power for immigration officers to direct and, if necessary, remove a potentially infectious person to a suitable place for screening and assessment, and from there for a public health officer to put restrictions (which could include quarantine) on relevant people.

5. MANDATORY QUARANTINE

Enforced quarantine for all inbound passengers for a (14 day?) period at home or in a government facility, or until they no longer have symptoms, would arguably be the most effective way to mitigate the risk of inbound travellers spreading the virus within the UK.

When implemented without a reliable way to test whether travellers have the virus (as above), it is likely that all incoming passengers would need to be quarantined in order for the measure to be effective.

However, there are very significant implementation challenges. Government facilities, and the resources required to run them, would need to be identified. There would also be questions of compliance unless this would strictly enforced. This measure would also pose issues for individuals needing/wanting to visit the UK for a shorter period than the quarantine period (e.g. to visit family or for business). A policy decision on guidance for these visits will need to be taken, between not allowing entry and developing a scale of measures and requirements.

Commented [HJ16]: Agree completely with Jonathan. We need to make it absolutely clear that temperature checks as visibly deployed in other countries are not an evidence based intervention and should NOT be described as a public health measure. There was a good review completed of the reliability of different thermometers during the 2014 ebola outbreak – scanning thermometers are the worst and nearly all deliver non-reproducible results when used in different temperatures and even colour density backgrounds. Tympanic thermometers are reasonably reliable but require considerable personnel and infrastructure set up to utilise in port settings, with risks of queues, passenger dissatisfaction etc and with negligible likelihood of finding a case

Commented [VTJ17]: In my view silly to suggest adding anything that is known to be so inefficient.

Commented [VTJ18]: Providing they don't route via Frankfurt or somewhere which would give false reassurance. You can only adapt this if you screen all flights from quality places to weed out transfers from countries with poor screening.

Commented [HJ19]: Are we sure this is happening now? It doesn't make sense if our rates are higher than 'old' high prevalence countries. The risk is here not there.

Commented [HJ20]: What is 'this'? does it mean a temperature check? If so better to say so it is clear what the discussion is about

Commented [HJ21]: There is a whole history of 'screening' on international rail which has been forgotten here. The consideration of where and how to achieve this resulted in all action taking place on non-UK soil. No 'screening' has ever been carried out in the UK for good reasons. But you will need to position staff in Brussels and Paris etc.

Commented [HJ22]: I am still not clear what 'this measure' is.....

Commented [VTJ23]: yes

Commented [VTJ24]: This misses the point; a perfectly reliable test on day 1 of the incubation period will still miss 100% of such cases. You would need a negative test on quarantine discharge instead.

Commented [HJ25]: But unlike all the other interventions described it would most likely be effective

This would require clear and forceful communications, especially prior to travel, so travellers were aware of any measures in place and understood the advice to follow.

Mandatory quarantine would pose significant risks to civil liberties, and should be undertaken with particular regard for potential infringements to human rights as well as public perception. As such, clear communications would be fundamental both for effective implementation of the policy itself, and for explaining the rationale behind using this measure to the public. It should be noted that measures such as these can often bring about widespread accusations of discrimination. As the pandemic progresses, it is likely that the risks of disease transmission may well be highest in passengers from countries which formally report very low community transmission rates – either because of suppressed testing and mortality numbers or because there is simply insufficient infrastructure for testing and reporting.

6. LEGAL REQUIREMENT TO SELF ISOLATE

This measure would entail requiring passengers to self-isolate (for 14 days?) upon arrival in the UK, so as to prevent/slow the spread of the virus.

However, this measure involve a significant enforcement challenge, if we saw a rise in tourisim/business travel as social distancing measures were relaxed both in the UK and internationally. In addition implementation would be challenging for individuals who did not have an appropriate place to self-isolate in the UK (tourists or business travellers on short term trips). Government accommodation might need to found for these individuals.

Commented [HJ26]: This is already in operation and has been for several weeks (for those symptomatic ane/or test positive). With rising passenger numbers the current capacity would clearly need to be increased

The success of this measure would depend largely on levels of compliance. As above, it could also bring accusations of discrimination and would require clear and forceful communications to travellers.

7. TRACK AND TRACE

Public Health England's contact tracing systems played a key role in the containment phase of Covid-19, where the ambition was to trace all individuals who had been in contact with confirmed cases to prevent/delay the disease becoming endemic. This included, for example, contacts of those who had travelled in to the UK and were later diagnosed with Covid-19.

Now that Covid-19 is endemic in the UK, we are developing an integrated testing and contact tracing programme to help keep the transmission rate under control – through prompt tracing/isolation of new cases, enhanced intelligence on prevalence/risk in different communities, and early warnings of potential flare-ups. This will include a new contact tracing app which integrates with public health contact tracing systems and swab testing.

We are working with scientific, technical and behavioural experts to try to develop this integrated system and address a wide range of issues that ~~will be key~~are fundamental to delivery of a viable public health product. ~~to its success~~. This includes the interface with policy relating to international travellers. As international passenger numbers increase, the imperative for effective border measures and tracing of passenger contacts will do too. We are considering how testing and contact tracing systems would apply to visitors. This will need to include some practical considerations about how the new App in particular may work, for example in terms of any requirement to download, as well as compatibility and

security considerations. As social distancing measures are relaxed, track and trace measures will be harder to implement amongst tourists visiting the UK unless they can be contacted as part of the proposed integrated contact tracing and testing programme and comply with the advice given.

SECTION 2: POLICY RESPONSE

Context

Numbers of cases arriving from other countries are estimated to be insignificant in comparison with domestic cases, comprising under 1% of all cases. Any measures to amend our public health approach at the border will have limited relative effect until the rate of transmission within the UK has gone down, and when levels of travel change.

There is therefore limited value in pursuing any of the above measures now. However, once community transmission within the UK has dropped significantly, and in the wider context of social distancing measures being relaxed both in the UK and internationally – thus increasing levels of international travel – it is possible that a combination of these measures could have a positive effect on controlling the rate of transmission further.

Of the measures discussed, current public health advice is that the most effective option in the absence of increased testing capabilities would be mandatory quarantine/self-isolation upon arrival in the UK. This would be a complex and expensive route to following, requiring consideration of options for government facilities and the practicalities of enforcement.

It may be possible to introduce self-validation forms and medical certification measures earlier than some others, but this would still be a strain on resources and have a very limited effect on management of the spread of the virus within the UK and would still cause strains on resources for PHE and ports.

Policy Proposal

We therefore propose that: **no additional measures at the border are introduced until internal transmission of the virus is under control**, and social distancing measures are relaxed. It is only at this point that imported cases will form a larger fraction of overall cases. Stop points for any intervention should be considered before announcing any implementation measure to prevent setting unhelpful precedents for new, emerging or existing infectious disease management.

Further work is required to understand both

i) how low community transmission would need to be for imported cases to play a significant role in UK case numbers (i.e. what is the 'tipping point') and

ii) the likely trajectory and timing for the UK to reach this point based on the social distancing measures currently in force. This analysis will need to include consideration of likely volumes of international travel once other restrictions are limited in making assumptions about the effect of border measures. We recommend that **SAGE is asked to provide advice on these two questions.**

~~ii)~~

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Further detailed work is also required to scope the effectiveness of specific measures that could be introduced at this 'tipping point'. At the present time scientific evidence suggests that

quarantine or mandatory self-isolation for 14 days after arrival will have the single greatest impact on efforts to prevent a rise in cases within the UK.

We recommend that **SAGE should be asked to provide detailed modelling and updated scientific advice on the effectiveness of these specific measures at controlling the rate of transmission.**

This work will need to be taken forward in tandem with consideration of the implementation challenges outlined below, as well as cost/benefits of different options, including feasibility, costs and capacity.

Implementation

A number of factors need to be considered in developing the approach to implementation of any of the options above. These include:

- The extent to which any of the options can or should apply to all passengers. There would likely be a case to exempt certain cohorts from the measures depending on the final proposal, particularly if it involved quarantine and/or mandatory self-isolation. We would need to consider cohorts on the basis of their need to move around immediately once in the UK, for example for compassionate reasons such as attendance at a funeral, seasonal workers required to support the UK's food production, drivers involved in the flow of freight (particularly the transport of food and supplies vital to the Covid-19 response), and passengers in transit to other destinations. Any exemptions would need to be carefully aligned across measures should we opt for implementing more than one. In addition, there is a question about whether we would seek to impose the measures on all nationalities. In terms of targeting particular nationalities, we would not be able to impose measures on EU citizens crossing the border which we would not impose on British nationals, so this would need to be balanced against the impact of applying measures to British nationals particularly those requiring repatriation. And finally there would be a question of whether measures should be aimed at passengers arriving from certain destinations or regions.

- How far we could get towards capturing all routes into the UK. We need to recognise that not all passengers will arrive at main ports or even those smaller ports that are not permanently manned. General Aviation and General Maritime arrivals would present a far greater challenge, as would arrivals from within the Common Travel Area.

- The impact of non-compliance with measures. An approach which mandates compliance rather than encourages may appear more effective, but a number of factors would need to be assessed including the extent to which compliance could or should be a condition of carriage or entry to the UK, how this would be enforced including any penalty regime, particularly upstream, and whether enforcement action would be against individual passengers or wider industry.

- Infrastructure practicalities. Measures may well require additional space at ports, so we need to understand how feasible this would be given changes to port infrastructure are not wholly in HMG's gift, the reaction of port operators, and likely timescales.

- Industry engagement. There would be a wide range of industry stakeholders affected by any measures and who would expect to be consulted ahead of implementation, not least the transport sector who would want to carefully consider the impact on their ability to restart operations once restrictions elsewhere start to be lifted. In parallel, private industry could well be a valuable source of new ideas and practical expertise.

- Cost. There would be costs not just to HG, which need to be fully assessed, but likely also to stakeholders such as port operators and carriers, who would have expectations in terms of financial reimbursement for any costs incurred or perceived losses in income.

- Legislation: depending on the approach taken, there could be legislative requirements to implementing new measures, which could impact on timescales.

International reactions

FCO advise that most international partners will be understanding if we implement new border measures but the level of understanding will depend on the scientific basis for the measures, whether they are seen as similar to those of other European countries and if they are introduced in coordination with partner governments.

The principle concern be if some nationalities are perceived to be discriminated against if subject to more rigorous controls than others, which could damage bilateral cooperation on getting UK nationals home. In particular, China would likely insist on reciprocity should we require testing at the point of departure and we understand that a policy of testing prior to travel would be seen as problematic for the Singapore authorities.

In Europe, early engagement will be particularly important with France, especially regarding Short Straits hauliers and Eurostar/Eurotunnel and juxtaposed controls; Spain/Gibraltar on maintaining border fluidity and with Ireland. It should be taken into account that implications on the UK's border with the Republic of Ireland introduced remain unclear. Indications from colleagues in Northern Ireland are that they are taking, at least in part, an all-Ireland approach to dealing with Covid-19, which thus raises significant issues around the means of determining the location of the border at which these measures are to be carried out. To add to this, reviews on social distancing measures in the Republic of Ireland are scheduled at different times from the UK's review points (currently every 21 days), meaning that the UK could effectively be responsive to RoI actions, or NI could diverge significantly from measures taken in GB.

As we develop our response, we must also be alive to opportunities to work with international partners on joint measures. An initial approach has been received from the Israeli Government with a proposal to partner with them to develop 'business capsules' to facilitate the resumption of business travel as soon as possible. This proposal would involve foreign business people taking a PCR test pre-travel in the country of origin, which if negative would allow them to fly. Individuals would then be fast tracked immigration control to a secure hotel compound in which they would be restricted but able to conduct meetings for a period of 3-5 days (avoiding the need for a self isolation period).