Pandemic Diseases Capabilities Board (PDCB)

Capabilities Review: Acute-Phase COVID-19 Emergency Response

DHSC and UKHSA; April 2022.

Board members are asked to:

- Agree the seven recommendations on p.2.

Summary and recommendations

1. The COVID-19 pandemic has clearly illustrated the propensity for a wider range of novel pathogens beyond a pandemic influenza to cause massive societal and healthcare disruption. This is true even if some pathogens fall short of the technical definition of a pandemic.
2. Further, the government's response to the acute phase of COVID-19 has demonstrated that the **UK's risk appetite has moved on from the 2011 pandemic influenza strategy**. A broader range of interventions, and thus response capabilities, are now within possible scope of a pandemic response and we need to prepare to intervene earlier and harder to reduce infection rates and prevent the modelled acute RWCS impacts on the health system from materialising.
3. **We must not make the mistake of preparing for the last pandemic.** This paper, however, makes the reasonable assumption that capabilities developed and deployed as part of the COVID response may be required in some format as part of a future pandemic response. Societal norms, changes in the nature of a pathogen (e.g. high rates of asymptomatic transmission) and the ready availability of effective clinical countermeasures (e.g. PPE, vaccines, and antivirals) are just some of the factors that may drive significant changes in the government's response to a future pandemic. **These recommendations therefore do not assume capabilities should be prepared for deployment in the same way as they have been in the COVID response. Rather, we recommend that HMG should retain some ability to access capability in these areas with a view to being able to flexibly deploy it as required.**
4. Furthermore, all preparedness planning is a balance of time and resourcing versus real-world impact. The recommendations within this paper do not assume that all capabilities will need to be held in a high or consistent level of preparedness in order to ensure we are better prepared for the next pandemic. Likewise, not all of the recommendations within this paper will drive equal amounts of work or real-world impact on the next pandemic response. **Careful prioritisation will be required to achieve optimum impact over a multi-year workplan.**
5. Finally, wherever possible, work to prepare the UK for the extensive impacts of a pandemic should align with wider emergency planning across government. Responses should seek to draw on pre-existing capabilities, including capabilities that can be used in day-to-day business-as-usual wherever possible to avoid duplication of effort and provide maximum value-for-money. On this basis, **recommendations within this paper have sought to reference pre-existing work that is underway already, including under DHSC's Pandemic Influenza Preparedness Programme (PIPP) and the conversations on the future of the Vaccines Taskforce (VTF).**

No.	Recommendation
1	**Non-Health departments,** with support from DHSC and UKHSA, should form a working group to consider proportionate preparedness arrangements for the supply and distribution of PPE for future pandemics in sectors outside of health and social care.
2	**DHSC** with **UKHSA** to produce a paper outlining the potential public behaviour changes expected during a pandemic. The paper should provide a qualitative description of a range of possible behaviour changes, both spontaneous and in response to government interventions, including the use of NPIs and border restrictions. The paper should consider the impact of these behaviour changes on rates of transmission for relevant pandemic diseases.
2.1	**All departments** to use the outputs of recommendation 2 to produce a supplementary risk assessment to the NSRA that assesses the impacts of behavioural changes on their sectors. The outputs of this work should be reviewed by ministers with a view to determining which NPI's fall within an agreed 'Response Ambition' that will provide clear planning assumptions to enhance cross-government preparedness arrangements for future NPI deployment.
3	**UKHSA** to supplement its existing diagnostics strategy proposals for PIPP by working with **NHS England, DfE, BEIS, DfT, DLUC, DEFRA, MoJ and MoD** to draft a paper outlining options for a scalable domestic pandemic diagnostics and surveillance system.
4	**BEIS VTF,** with support from UKHSA, OLS and DHSC to provide an update paper to the PDCB detailing their work to develop for a resilient, long-term home of novel pandemic vaccine development and manufacturing capability within HMG.
5	**All departments** to review their incident response data collection, evaluation, and reporting requirements in light of the updated pandemic RWCS within the NSRA and their behavioural change impact assessments under recommendation 2.1. Reviews should give specific consideration of data required to monitor behaviour, outcomes and equalities impacts as well as which data streams, if any, should be fed into the National Situation Centre.
6	**All departments** to review their resourcing arrangements for pandemic preparedness with a view to ensuring a stable and consistent home for future pandemic preparedness coordination in the longer-term.
7	**All departments** should conduct working-level lessons learned reviews covering the COVID-19 response capabilities highlighted within the returns to this commission. Documentation should be saved in an accessible format within emergency response coordination teams for future reference.

Methodology:

6. In March 2022, members of the PDCB were commissioned to provide a list of emergency response capabilities built for the acute-phase of the COVID-19 pandemic. Board members were also asked to provide further details on the future of these capabilities, flagging where and how they were being transitioned into a longer-term state of preparedness for future emergencies.

7. The commission was supported by 17 engagement conversations with departments to discuss the returns. In total, returns were received from 19 departments, totalling 196 capabilities. A full list of capabilities is included at **Annex B**. To help visualise the returns we have also made a presentation deck at **Annex A**.

8. Please note, in agreement with the Devolved Governments, this review covers only reserved UK Government and devolved capabilities in England. Devolved Governments will consider in due course whether this is an activity that they wish to replicate for devolved capabilities within their own administrations.

Thematic recommendations:

9. The following analysis has sought to group Departmental (or Exec Agency and ALB) capabilities into common themes that demonstrate the sum-total of HMG capability within a given response area, e.g. PPE supply or social distancing. The paper covers 13 themes, reflecting the broad range of capability required for the COVID-19 response.

Personal Protective Equipment (PPE)

10. Capability returns demonstrate that a range of PPE procurement and distribution capabilities have been built across departments to manage the rapidly increased demand for PPE created by changes to C19 public health regulations and guidance.

11. The historical Pandemic Flu Readiness Board (PFRB) workplan did not consider PPE supply arrangements for non-health sectors and current DHSC-led PPE preparedness planning is modelled on demand generated by the health and social care sector only.

12. Procurement of PPE during COVID-19 has been the subject of significant public and parliamentary scrutiny and the safeguarding of public funds and management of financial risk will feature in the upcoming COVID Inquiry. Preparedness will not look the same for all sectors and DHSC's stockpiling approach is not necessarily a proportionate or VfM activity for all departments. For instance, simply improving upfront estimates of PPE demand for non-health sectors may provide significant benefits to proportionate procurement during the next pandemic.

13. Given the importance of this area and the current gap in non-health sector preparedness, there is therefore a need for cross-government work to consider the demand and supply arrangements for non-health sector PPE with a view to preparing a secure and proportionate PPE supply for future pandemics.

Recommendation 1:

Non-Health departments, with support from DHSC and UKHSA, should form a working group to consider proportionate preparedness arrangements for the supply and distribution of PPE for future pandemics in sectors outside of health and social care.

Non Pharmaceutical Interventions (NPIS): Social Distancing

14. This commission highlighted **57 capabilities** across departments that enabled the government's social distancing response. The commission also identified a **further 11 capabilities** designed to provide financial and economic support that enables compliance with NPIs and addresses the secondary and tertiary impacts of NPIs and high rates of sickness absences in the workforce. Finally, a **further 8 capabilities** were identified that relate to departmental business continuity arrangements such as staff redeployment and emergency contact systems. Whilst not specific to the use of NPIs, these capabilities will have played a supporting role in enabling departmental business to continue whilst restrictions were in place.

15. The basic number of capabilities in this area does not account for resource allocation or spend, however, **the scale of the cross-government response to enable deployment of NPIs is nonetheless evident**. Prior to COVID-19, the PFRB's workplan included only limited activity to prepare social distancing capabilities and so much of this capability was built from scratch during the response.

16. Further, in line with the National Security Risk Assessment (NSRA) methodology, revised pandemic reasonable worst case scenario models (RWCS) represent unmitigated scenarios and so do not include a full risk assessment for the use of NPIs. Given that the imposition of lockdown in part accounted for a 25% drop in GDP between February and April 2020[1], the largest drop on record, and numerous secondary and tertiary impacts on all sectors, this represents **a significant gap in the UK's assessment of pandemic risk**. Noting that, even without government intervention, we would anticipate spontaneous behaviour change and subsequent economic damage. What is more, the secondary and tertiary impact of these measures will have been unevenly spread throughout society, highlighting - and in areas exacerbating - pre-existing inequalities.

17. A consistent challenge throughout the COVID-19 pandemic has been disaggregating the individual impacts of a given NPI on rates of transmission. In part because it is an individual's behavioural reaction to an NPI that impacts rates of transmission and so the same NPI may have different impacts if used at different points in a pandemic or in response to a different pathogen. Furthermore, NPIs were deployed for COVID in packages, making it challenging to isolate the individual impact of a given measure. The same challenge holds for secondary and tertiary impacts that will have multiple influencing factors. The Chief Medical Officer for England has commissioned an external evaluation of the social distancing measures deployed in England for the COVID-19 pandemic and we anticipate numerous domestic and international academic studies will further enhance our understanding over time.

Recommendation 2:

DHSC with **UKHSA** to produce a paper outlining the potential public behaviour changes expected during a pandemic. The paper should provide qualitative description of a range of possible behaviour changes, both spontaneous and in response to government interventions, including the use of NPIs and border restrictions. The paper should consider the impact of these behaviour changes on rates of transmission for relevant pandemic diseases.

[1] Coronavirus: Economic impact - House of Commons Library (parliament.uk)

Recommendation 2.1:

All departments to use the outputs of recommendation 2 to produce a supplementary risk assessment to the NSRA that assesses the impacts of public behavioural changes on their sectors. The outputs of this work should be reviewed by ministers with a view to determining which behavioural changes fall within an agreed 'Response Ambition' that will provide clear planning assumptions to enhance cross-government preparedness arrangements for future NPI deployment.

Non-Pharmaceutical Interventions and Behavioural Changes: Financial and Economic Support

18. The unprecedented use of NPIs and significant changes in public behaviour seen during the COVID-19 pandemic required the provision of far greater economic support than pre-COVID planning assumptions suggested.

19. The planning assumptions in the 2011 UK Influenza Pandemic Preparedness Strategy focussed on the economic impacts of sickness absences. As a result, the strategy did not include many of the significant economic impacts we have seen during this pandemic, such as the dramatic drops in economic activity, significant shifts and reductions in consumer spending and disruption to global supply chains. The OBR's Fiscal Risks Report from July 2021 suggests the UK's real GDP declined by an unprecedented 9.8% in 2020[2] and as of September 2021, the NAO estimated the lifetime cost of government spending on COVID-19 will reach £370 billion[3].

20. Clearly then, in line with **recommendation 2.1,** our economic risk assessment for pandemics must be updated to include a broader range of impacts, including the significant potential impacts of NPIs and behavioural changes on different sectors of the economy.

Testing and contact tracing

21. The Living with COVID Strategy is significantly scaling back the UK's active COVID-19 diagnostics capability. Following discussion at the DHSC Pandemic Influenza Preparedness Programme (PIPP) Board, it was agreed that a long-term scalable strategy for UKHSA-led pandemic diagnostics is essential to ensure that we have sufficient capacity to rapidly respond to future outbreaks, including pandemic influenza. An options paper has been commissioned from UKHSA for discussion at the next PIPP in Summer 2022.

22. Outside of the population-level test and trace infrastructure owned by UKHSA, this commission has highlighted a significant role for specialist testing capabilities in the education, justice, environment, and farming sectors. This includes wastewater and animal testing, as well as specialist surveillance in schools and secure estates.

[2] [2] Fiscal risks report – July 2021. Office for Budget Responsibility. Available here: https://obr.uk/frr/fiscal-risks-report-july-2021/

[3] COVID-19 cost tracker - National Audit Office (NAO)

Recommendation 3:

UKHSA, to supplement its existing diagnostics strategy proposals for PIPP by working with **NHS England, DfE, BEIS, DfT, DEFRA, MoJ and MoD** to draft a paper outlining options for a scalable domestic pandemic diagnostics and surveillance system.

Vaccines

23. Capability returns focused on the centralised development capabilities owned between DHSC and the VTF in BEIS. Separately, HMG has also expanded its capabilities to deliver these vaccines to the community, primarily via work within DHSC, NHSE&I and UKHSA. A small number of additional capabilities were identified within DfE and DLUC for vaccine rollout within school and community settings respectively.

24. Clearly, vaccine development and delivery have been key to the global response to COVID-19, however, the capabilities identified demonstrate that a new cross-government response was required to address COVID-19 that did not draw upon our pre-COVID advance purchase agreements (APA) for an influenza vaccine. This does not detract from the value of having an APA in place, should it be required.

25. Returns highlight the ongoing role of vaccine delivery in the 'Living with COVID' strategy, however, consideration is required on how the capability to develop a novel pandemic vaccine can be held at a state of preparedness or otherwise enhanced for use against a broader range of pandemic hazards in future.

Recommendation 4:

BEIS VTF, with support from UKHSA, OLS and DHSC to provide an update paper to the PDCB detailing their work to develop a resilient, long-term home of novel pandemic vaccine development and manufacturing capability within HMG.

Healthcare delivery

26. Returns highlighted the significant volume of work required to surge staff and estate capacity in health and adult social care to deal with the significant demands of the pandemic. There were also a range of teams established to rapidly procure medical supplies and equipment, including ventilators, therapeutics, and antivirals. Across government, this highlighted the sectoral demands on local authorities and with secure estates.

27. Given that these capabilities are being continued as part of the 'Living with COVID' strategy and there is a separate preparedness programme active within the health and social care sectors underneath PIPP, we do not propose any additional cross-government action is required from PDCB at this time.

NPIs: Travel and Borders

28. Significant new capability has been built to deliver the Government's border NPI capability and reduce instances of imported COVID-19 cases. Capability returns highlight the coordinated cross-government effort required within this area, calling on integrated capabilities owned by Home Office, UKHSA, DHSC, DfT and BEIS as well as specialist requirements for the MoD. Much of this capability is now stood down as part of the 'Living with COVID' strategy. The returns do not represent the significant

BAU uplift for the FCDO to support international engagement and UK nationals abroad.

29. Like other NPIs, travel and border restrictions did not feature as part of the pre-COVID PFRB work programme, in part as there was limited evidence of their effectiveness. Modelling studies from 2006[4] suggested that a 90% restriction on all air travel in a flu pandemic would only delay its arrival in the UK by one to two weeks, whereas a 99.9% restriction might delay this by some two months. Infectious disease-related UK border capabilities are not however unique to the COVID-19 pandemic. Port of entry screening and consideration of self-isolation and quarantine arrangements formed part of the response to outbreaks of Ebola and, to a lesser extent, MERS. Work is also ongoing within the Borders Design Authority on port and border health.

30. During the COVID-19 pandemic nations including New Zealand, Australia, Singapore and China have adopted 'Zero COVID' policies and pursued severe travel limitations, long-term quarantine arrangements and strict community transmission restrictions that differ significantly from the UK government's approach. It is therefore right that, in due course, the evidence base for intervention at the border to delay the transmission of a disease is revisited in light of international experiences of the COVID-19 pandemic and our updated strategic approach to pandemic preparedness and response. Our future pandemic border and quarantine policy should then be underpinned by an updated evidence base for intervention and a risk assessment of secondary impacts of any NPIs that might be deployed.

Recommendations 2 and 2.1 cover activity in this area.

Command, control, and business continuity

31. Returns demonstrate that the majority of crisis response coordination was delivered through existing operational response teams that pre-date the COVID-19 pandemic. In many departments, existing structures required significant surge and/or redeployment of staff from other activities for the enhanced incident response. A key theme identified was the development of technological capabilities to allow for remote working business continuity.

32. Given that these capabilities are not unique to a pandemic response, we do not recommend any specific activity for the PDCB at this time. In due course, operational lessons learned from the COVID-19 pandemic will need to be implemented into departmental operations, technology, resourcing and wider risk and contingency plans. Given the broad applicability of such lessons, any resulting work may be better delivered as part of CCS' National Resilience Strategy.

Research, data, and analysis

33. Being able to swiftly stand-up and then evaluate a wide range of data is one of the government's most important tools for understanding the nature of a disease and evaluate the effectiveness of pharmaceutical and non-pharmaceutical interventions. Returns demonstrate the breadth of enhanced data and surveillance carried out by departments to provide up to date management information for the COVID-19 response. This includes explicit consideration of equalities impacts and evaluation

[4] Main heading (publishing.service.gov.uk)

measures that have helped the government to understand the impact of mitigation and containment measures. Returns also demonstrate the enhanced role of sectoral scientific advice that supplemented DHSC and UKHSA-led health advice.

34. Much of the enhanced monitoring and scientific advice capability is being continued as part of the 'Living with COVID' strategy or other BAU structures within departments including the UKHSA, however, certain MI and data collection arrangements are now being scaled back across departments.

35. Work is underway within CCS to develop the National Sit-Cen that will provide a central data ingestion point and analysis capability for emergencies. Not all data will be practical or relevant for the SitCen and so it is recommended that, in due course, departments map out and identify their own pandemic response MI requirements in line with the updated risk picture from the NSRA and any supplementary analysis conducted on the secondary impacts of behavioural changes.

Recommendation 5:

All departments to review their incident response data collection, evaluation, and reporting requirements in light of the updated pandemic RWCS within the NSRA and their behavioural impact assessments under recommendation 2.1. Reviews should give specific consideration of data required to monitor behaviour, outcomes and equalities impacts as well as which data streams, if any, should be fed into the National Situation Centre.

Guidance, communications, and stakeholder engagement

36. Clearly, communications both with internal stakeholders and with the public, were flexed to the increased and specific demands of the pandemic. Whilst specific guidance is for the most part being retired, the fundamental capabilities for internal and external stakeholder engagement are continuing as part of the 'Living with COVID' strategy or normal BAU process.

37. In due course, the UK Pandemic Communications Strategy will need to be updated to reflect any developments on the broader Pandemic Preparedness Strategy itself, as well as any learnings from the COVID-19 pandemic and the updated risk assessments conducted under the NSRA and for behavioural changes. As publication of the main strategy is a key dependency for development of this work, we do not recommend any specific communications work is undertaken by the PDCB at this time and that this is revisited in due course.

Deaths management

38. Deaths management guidance on GOV.UK was updated to reflect the demands of the COVID-19 pandemic and capability returns demonstrate the work undertaken by MoJ and DLUC to provide for surge capacity and administrative easements for excess deaths management.

39. Primary capabilities, except for surge morgue storage capacity, are being continued as part of the 'Living with COVID' strategy or otherwise embedded into BAU plans. On this basis, we do not recommend any specific work under PDCB on excess deaths at this time but that this issue is revisited in due course as part of a future programme of work.

International

40. Building upon prior updates to the PDCB from FCDO colleagues, the returns demonstrate the range of additional international focused work conducted by the FCDO during the pandemic. New capabilities and workstreams built upon the large and pre-existing global health capability operated by the UK Government.

41. Given that there is pre-existing governance architecture for Global Health and that capabilities identified fit within those structures, we do not recommend that any specific international capability building work is conducted by the PDCB. In line with prior discussions on international capabilities, issues of cross-cutting or domestic importance should be brought to the PDCB for future discussion as relevant.

Governance and Management Recommendations

42. Finally, supporting engagement for this commission highlighted that all departments' resourcing arrangements for pandemic preparedness are in a state of flux. In line with the 'Living with COVID' strategy, resources are understandably being scaled back from pandemic-focused work and, in many cases, being redeployed to focus on the Ukraine crisis. Consideration will be required for how departments provide stable resourcing arrangements for pandemic preparedness work identified within this paper into the longer term.

Recommendation 6:

All departments to review their resourcing arrangements for pandemic preparedness with a view to ensuring a stable and consistent home for future pandemic preparedness coordination in the longer-term.

43. Capability returns highlight a range of lessons learned activities taking place across government including establishment of specific teams to manage the demands of the COVID inquiry. However, perhaps in part due to the high-level nature of the returns, it is unclear whether all departments are actively pursuing operational lessons learned activities now, especially whilst resources remain in place or fresh to the issues at hand.

Recommendation 7:

All departments should conduct working-level lessons learned reviews covering the COVID-19 response capabilities highlighted within the returns to this commission. Documentation should be saved in an accessible format within emergency response coordination teams for future reference.

Name Redacted

Pandemic Preparedness Strategy

UK Health Security Team, DHSC

May 2022