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Learning Lessons from the Ebola Response: Department of Health, Public Health England and NHS England Report

Introduction

1. The Department of Health (DH) has worked closely with Public Health England (PHE) and NHS England in supporting the UK Government's Response to Ebola in West Africa and in ensuring a robust response to the threat in the UK.

2. DH, PHE and NHS England have taken steps to identify and learn lessons throughout the Ebola Response: both collectively (through weekly shared governance meetings and a number of tri-partite lessons learned workshops) as well as at an individual organisational level. This report does not attempt to capture all of these lessons identified, but rather to distil those most germane to consideration of the cross-government response. Key Lessons are summarised at **Annex A.**

3. This report also does not cover the provision of scientific and clinical advice during the response; DH, PHE and NHS England have been significantly involved in this area and have also contributed through separate lessons identified processes (including the SAGE process).

4. This report represents the state of play as of the beginning of June 2015. All partners are mindful that the response is not yet over - either in West Africa or in the UK - and continue the work to support the drive to zero cases, and to identify any further lessons.

UK Domestic Response – Public Health Measures in England

5. PHE has led work to protect the health of the UK population from Ebola.

6. Following the intense transmission of Ebola Virus Disease in the West African countries of Liberia, Sierra Leone and Guinea, a decision was made at the COBR meeting of 10 October 2014 to implement screening of indirect flights to major UK ports from these countries.

7. The screening programme was rapidly set up by PHE, with programme management across government overseen by the Prime Minister's Implementation Unit (PMIU) and policy driven by the Department of Health. The first wave implementation date for screening was 14 October 2014.

8. PHE's Screening and Returning Workers Programme consists of three key elements:

    i. a port screening programme at Heathrow, Gatwick, Birmingham and Manchester airports, and at St Pancras (covering 97% of through ticketed air passengers travelling from affected countries – over 7,000 individuals to date);

ii. an off-site screening programme (telephone) for shipping ports, provincial airports, private airports, out of hours presentations and diplomatic personnel;
iii. the Returning Workers Scheme which covers pre-registered workers from industries and professions frequently travelling to affected countries and/or at high risk (predominantly healthcare workers, but also journalists, miners etc.) and ensures they are screened and proactively monitored on return to the UK.

9. Screening processes - and the operational plans supporting them - have been kept under continuous review throughout the response, with improvements quickly implemented.

10. Ebola screening has served as an effective risk mitigation gateway, allowing PHE to:

i. identify returnees from the affected countries;
ii. assess passengers' state of health and in-country activities;
iii. provide passengers with information about Ebola and the public health system in place for addressing it should symptoms develop; and
iv. facilitate rapid access to treatment if needed, and rapidly follow up high-risk passengers within the UK.

11. In addition to implementing Ebola screening and monitoring arrangements at the UK's main ports of entry, PHE has also:

i. prepared guidance for all NHS organisations and wider organisations (e.g. the Association of Port Health Authorities and the UK Maritime Pilots Association);
ii. developed standards for personal protective equipment in the UK and for UK healthcare staff in Sierra Leone;
iii. established a scheme to brief UK workers in affected countries to reduce risk and monitor their health on their return;
iv. provided clinical advice and testing to NHS hospitals assessing people with possible infection; and
v. managed issues of decontamination and contact tracing for any UK individuals infected with Ebola.

12. The PHE National Incident Co-ordination Centre is set up to respond to events and, at the outset of the PHE Level 3/4 response, would have benefitted from a formal future-look scenario planning team to regularly review and develop contingencies to respond to developments. Similarly, the PHE Guidance cell is crucial to any such response and needs to be fully resourced.

13. It is recognised that in developing public health messages it is important to consider the need for political and public reassurance, alongside the scientific and epidemiological evidence e.g. for entry screening.

14. This lesson of balancing public health advice with public reassurance at an early stage was also reflected in the experience of the public health recommendations for (asymptomatic) workers

returning from the Ebola response in West Africa. In order to take account of the sensitive public context in which they would be followed, it was deemed necessary for this guidance to be adapted initially to provide greater public reassurance. For example, higher risk (Category 3) returning healthcare workers were asked not to return to patient-facing roles for 21 days to ensure they were past the incubation period before treating patients face-to-face.

15. The complex and fast-moving data landscape in relation to the screening and returning workers operations meant that data reconciliation (e.g. between PHE, Border Force, and NGO numbers) at times proved challenging. An evaluation by PHE of port entry screening and the returning workers' scheme is underway. The establishment of data exchange systems and codes of practice with partners were valuable in addressing this, and also allowed for regular and accurate assurance reporting to senior officials and Ministers. The early establishment of a lead Department for data reconciliation and publication would have provided earlier assurance and removed duplication in cross-government work streams. This exchange of data between departments and agencies was also very important for airplane passenger contact tracing.

Key Lesson 1: PHE to review its National Incident and Emergency Plan (NIERP) to allow the establishment of a broad strategic group (e.g. Emergency Ebola Strategic Response Group) for PHE Level 3/ 4 responses. This group would ensure PHE staff can mobilise quickly and in numbers between PHE directorates, and would set up a well-resourced team that can horizon scan, scenario plan and develop contingencies, with options for senior decision makers.

Key Lesson 2: It will be important to factor-in the resource requirements for a prolonged national incident and emergency response, which may include the immediate deployment of trained staff as well as implications for day-to-day risk management for other public health programmes. A well-resourced PHE guidance cell will also be important for any such response.

Key Lesson 3: In preparing policy options in relation to a public health threat response, it is important to explicitly consider at the outset how the message to the public can encompass the scientific advice within the wider context of public and political reassurance.

Key Lesson 4: Government Departments and partner agencies should establish at an early point of a response their roles and responsibilities with regards to data, including the owner and lead for data exchange systems. This would facilitate regular assurance to Ministers and officials, based on a single version of accurate data. In doing so, it will be important to recognise the sensitivities and limitations of partner organisations' data.

Key Lesson 5: In a small number of cases, returning healthcare workers were unable to return to their homes immediately because of family concerns about close contact during the 21 day incubation period. Should this happen again, early recognition and communication of expectations will be important, as well as agreement of what arrangements might be made and by whom.

Key Lesson 6: The national, four nations and regional multi-agency Ebola exercises designed by PHE were key to testing and refining UK preparedness and response arrangements. There are further

opportunities to better communicate the proportionate risk mitigation approaches adopted in each Devolved Administration to demonstrate coherence rather than apparent differential approaches.

UK Domestic Response – NHS Preparedness and Response in England

16. NHS England has led the work on ensuring that the whole of the NHS is aware of Ebola and has systems in place to identify and isolate any patient who presents with or who may be suspected of having Ebola. In addition to this, NHS England has set up specific surge centres ready and able to treat Ebola and suspected Ebola patients. PHE has also contributed to this work, particularly with regards to raising awareness and training.

17. From the outset, NHS England raised awareness in the system by way of articles, letters to Trusts and PHE-produced guidance and posters. It also ensured that there was sufficient and appropriate Personal and Protective Equipment (PPE) in the NHS Supply Chain to draw down. DH procurement also played a key role in ensuring that there were adequate PPE supplies across the UK.

18. In terms of training, NHS England confirmed that NHS Trusts received training and PPE in line with the expert guidance issued by the Advisory Committee on Dangerous Pathogens (ACDP). All NHS trusts provided assurance that they had appropriate isolation facilities in place with safe systems of work to allow them to deal with a suspected Ebola patient. Every ambulance service in England is now also capable and ready to safely transport a viral haemorrhagic fever (VHF) patient.

19. On 1 December 2014, the Cabinet Office Implementation Unit produced a report of its work to assess the extent to which the NHS was prepared. They reported on Emergency Departments, Ambulance service frontline staff, NHS 111 helpline call handlers, General Practice and local health protection units. Their report was generally positive, while indicating there was further work to be done in relation to a few areas, including awareness among Trust reception staff and NHS 111 responses.

20. DH worked closely with NHS England in relation to the 'surge capacity' of the NHS in England to treat confirmed Ebola patients. This capacity was developed by identifying hospitals that would be ready to accept Ebola patients and ensuring that ambulance services were prepared to transport patients.

21. The four surge units were identified as:

    i. Royal Free Hospital, London;
    ii. Royal Victoria Infirmary, Newcastle;
    iii. Sheffield Teaching Hospitals NHS Foundation Trust;
    iv. Royal Liverpool University Hospital.

22. The Royal Free Hospital in particular played a significant role in supporting the Ebola response in the UK – most notably in achieving positive outcomes for the three EVD positive individuals that have been treated in the UK to date, but also in ensuring a co-ordinated communications approach.

Key Lesson 7: It was helpful that DH and NHS England put systems in place to facilitate senior clinicians and experts from across the country to come together to develop recommendations and share learning on NHS preparedness and surge capacity.

Key Lesson 8: Further work will be required between DH, NHS England and PHE to determine the most appropriate levels of PPE that should be maintained in the NHS for ongoing infectious disease preparedness in England. This work should be mindful of supply chain resilience issues.

Key Lesson 9: Further work will be required between DH, NHS England, PHE and cross-government partners (including Department for Transport, the competent authority) to ensure a robust system is in place for the movement of large quantities of category A clinical waste.

UK Domestic Response – Managing Medical Evacuations and Precautionary Extractions from West Africa

23. The UK Government position throughout the Ebola response has been that if UK personnel contract Ebola in West Africa, they will be brought back to the UK for treatment if it is clinically advised and in the patient's best interest.

24. Additionally, the UK Government adopted in January 2015 the highly precautionary policy of offering to any UK healthcare worker with potential exposure to Ebola (e.g. through needle stick injury) a dedicated flight to the UK for assessment and monitoring, if clinically advised. It was also agreed at this time that the UK would, where possible, use the EU medevac system which had been set up in October 2014.

25. All partners (including Cabinet Office, MOD, DFID, DH, NHS England, PHE and Medevac providers) have collaborated impressively to manage the complex and time-pressured end-to-end process of 2 medical evacuations and 13 precautionary extractions from West Africa. In addition, there has also been an internal UK to UK medical evacuation.

26. In identifying lessons, it is important recognise that not all international medevac providers work to the same clinical advice or reach the standards the NHS expects for the end-to-end process. Differences include the way in which people are lifted into the aircraft and the isolation and treatment of people being extracted who are not infection risks (isolation not being deemed necessary in such cases by NHS England or Public Health England). DH worked closely with other Government Departments, NHS England and the EU to ensure the process of arranging a flight was quick and efficient, and to determine which EU medevac providers the UK would accept to use, based on interoperability with the NHS and meeting NHS standards. Once this work was

completed, the EU Process generally worked well, including close working with the EU Emergency Response Coordination Centre (ERCC).

27. It should also be noted that there were some instances where patient-identifiable information was not appropriately managed by all partners involved in the medevac/ extraction process.

Key Lesson 10: It will always be necessary to ask medevac providers to supply technical information so that NHS England can make an assessment of their interoperability with the NHS.

Key Lesson 11: Further work should be undertaken with partners involved in the medevac process to ensure consistent adherence to the principles outlined in the Caldicott Report on patient-identifiable information.

UK Domestic Response – Public Reassurance, Health System Engagement and International Action

28. A Health System Ebola Communications Group was established early in the response, bringing together communications leads from DH, PHE, NHS England, the Royal Free Hospital and across government and the Devolved Administrations. This group agreed a health system communications strategy that focused on:

    i. public reassurance (to improve understanding, reduce levels of public concern and build a high level of confidence in the Government's planning and response to Ebola ahead of any UK case and to maintain these levels);
    ii. professional and system engagement (to ensure frontline health professionals know how to deal with a suspected case of Ebola, and that all health staff are confident that measures are in place within their own organisations to protect them from infection in the event of a case);
    iii. international action (to highlight the work of NHS volunteers and encourage future volunteers to support the UK international response, and promote UK's leadership of key elements of the global response on pharmaceutical and vaccine development).

29. Key tactics included:

    i. front foot media engagement (fast response to evolving Ebola situation (e.g. false alarm cases) to ensure balanced, reassuring messaging to build measured media response);
    ii. proactive media story creation (continual drumbeat of key reassurance messages on UK preparedness through national, regional, and trade media);
    iii. an effective 'white coat' media strategy targeting influential clinical voices to use as key spokespeople before, during and after the first case;
    iv. speedy, 48-hour turnaround on design, production and distribution of information leaflets and posters for hospitals, GP surgeries and pharmacies;
    v. up-to-the-minute Ebola content on NHS Choices and GOV.UK, positioned as the main digital channels for public and staff information respectively;

vi. close partnership working with professional organisations, using their channels to promote messages and updates to health workers;
vii. high impact digital content, including blog posts by volunteer healthcare workers from Sierra Leone, video and audio content by key spokespeople and the use of social media platforms to put out clear, concise infographics challenging popular myths;
viii. extensive media and stakeholder briefings, keeping influential commentators informed and involved as the UK response took shape, and providing front-foot containment of identified issues (such as scrutiny of screening processes prompted by a diagnosis within the UK).

30. Cabinet Office led on central communications coordination, including top lines brief and Q&A - updated every week and circulated to the wider group.

31. Research and evaluation underpinned the approach. This included a public tracker poll measuring public concern around Ebola and confidence in our response, focus groups with public and staff to inform and shape our response and a survey of critical NHS staff. There was generally a measured media and public response (unlike in the U.S. and Spain) and public and staff alike felt informed and reassured. For example:

i. between 30 October 2014 and 8 January 2015, a 19% decrease in the proportion of people believing Ebola was a significant or moderate threat to the UK was achieved. (YouGov);
ii. high level of positive media coverage (in the three months before the first case diagnosed in the UK in December 2014 the weekly average of media coverage was 70% positive or straight, while in the week after this was 78% positive or straight (YouGov));
iii. continuous fall in public concern (in the week after the first case diagnosed in the UK, the proportion of people considering Ebola a significant or moderate risk significantly decreased from 40% to 28% - the lowest level since we began polling in October, although it is likely the terrorist attack in Paris affected people's perception of risk (YouGov));
iv. public confidence rose by 9% following the extensive communications campaign (YouGov);
v. confidence of workforce was maintained (while the U.S. faced nursing strikes in protest against perceived insufficient preparedness for Ebola, our survey of NHS staff found that awareness and knowledge was high (7.5 in 10 staff), and 8.5 in 10 were confident that their local health system would be able to respond quickly and effectively to suspected cases (GfK NOP)).

Key Lesson 12: Maintaining public reassurance levels in the UK provided a necessary underpinning for the UK's wider Ebola response approach. Critical to this was the central message that we could expect a handful of cases and we knew how to deal with them; this contrasted with the initial U.S. message - that Ebola was not a problem for the U.S. - which they later had to rectify.

Key Lesson 13: The UK Ebola Communications Operational Plan (with agreed protocols for a number of scenarios) was key to supporting a coordinated and responsive communications approach to first and subsequent cases in the UK. DH, PHE and NHS England will adapt it to form part of wider health emergency communications planning.

Key Lesson 14: The Four Nations Ebola table top exercises at ministerial and official level were valuable in developing, agreeing and testing communications strategies across the Four Nations in the event of a confirmed Ebola case in the UK.

Key Lesson 15: It is important to ensure third-party spokespeople are in place early to ensure there are influential supportive voices adding weight to government messages. It is also important to gather insight from the public and staff to feed into and modify the communications strategy where necessary.

UK Domestic Response – Public Health Legislation

32. When entry screening began in October 2014, COBR sought advice on whether legal powers for screening and quarantine were sufficient for England. Relevant public health powers are complicated and there are separate regulations applicable to international arrivals by ships, aircraft and trains. These powers, and those in the community, are all exercised by a local authority.

33. The overall assessment was that existing powers, though complicated, were sufficient to deal with symptomatic individuals arriving in England. The main public health risks to be addressed were in relation to asymptomatic but potentially infectious individuals, who are not infectious until and unless they develop symptoms. DH prepared draft legislation should the risk to England become so high that exceptional public health measures may be required to minimise the spread of infectious disease.

34. Due to the need for rapid development of the regulations, the legal team was involved from the start and the regulations were developed alongside the policy. Because of time pressures, and the sensitivity of the emergency regulations, development of the arrangements to operationalise the regulations followed at a slower pace, which was not ideal.

Key Lesson 16: There are currently different disease management controls and powers that are not consistent in approach at different types of ports of entry, or for different disease groups. There is an opportunity to review and align all relevant legal powers to allow logical stepped interventions from port through to community.

Key Lesson 17: As far as possible, operational demands should be addressed alongside policy and legal issues, although this will not always be straightforward.

Key Lesson 18: Cross government collaboration in developing draft emergency regulations was of vital importance in both establishing the policy and ensuring it was possible to operationalise it.

Key Lesson 19: Work undertaken during the Ebola outbreak will be considered as part of a legacy package of possible amendments to public health regulation.

Supporting the International Response – International Engagement

35. As part of the cross-Whitehall approach to tackling the Ebola crisis in West Africa, members of DH's EU, WHO & Global Health Security team have worked alongside colleagues from the FCO, DfID, and the MoD to maintain an international engagement strategy that supports a coordinated approach to encouraging international partners to deliver on key UK Government asks.

36. The FCO meetings supported a targeted and co-ordinated engagement approach, with individual departments engaging those international partners with whom they had the best existing links, thereby optimising the use of existing relationships.

37. During the scale-up of the UK response in Sierra Leone, which coincided with the most severe stages of the outbreak, cross-Whitehall international engagement efforts focused on working with international partners to commit staff, money, and in-kind assistance to support UK efforts.

38. In the lead up to the WHO Executive Board Special Session on Ebola in Geneva on 25 January 2015, the focus of engagement shifted to ensuring that HMG priorities for WHO reform were achieved through securing wording on human resources reform, the establishment of rapid response teams and a contingency fund to finance their work in the resolution passed at the Special Session.

39. Following the Special Session, as the need for immediate financial and personnel support in Sierra Leone diminished (as adequate financing and staffing had been secured and infection rates had begun to slow) the international engagement strategy shifted to maintain the focus on 'getting to zero' in the affected countries and to ensuring that the WHO reform called for in the resolution could be delivered.

40. DH's engagement with international partners has taken a variety of forms, including: Ministerial calls; Ministerial letters; senior official calls; bilateral meetings at key EU and WHO events and during Ministerial/senior level visits, both outbound and inbound.

Key Lesson 20: Cross-Whitehall coordination of international engagement efforts has been helpful in ensuring an effective and joined-up approach, with departments targeting where they have the best links, and duplication minimised.

Supporting the International Response – NHS and Public Health Volunteers

41. DfID was the lead department in deploying volunteers internationally. DH assisted the process and liaised with the NHS to support the release of volunteers to work on the response in Sierra Leone through UK-Med. NHS England played a key role in ensuring that NHS volunteers were working in locations that were governed by safe systems of working. There was also significant PHE input in deployment internationally.

42. DfID also funded three diagnostic laboratories in Sierra Leone which have been essential in helping to reduce the time taken to identify, isolate and treat Ebola-infected patients. PHE set up, established and managed these labs and secured the full sample pathway: sample collection, transport to laboratory, laboratory analysis and quick result to clinicians (all steps that proved complicated). In addition, PHE managed these labs and developed a successful scheme to deploy volunteers to work in them. Volunteers primarily came from Public Health England, Public Health Wales, the NHS, Defence Science and Technology Laboratories, and academia.

Key Lesson 21: A single central register of volunteers (with a single point of contact and regular co-ordinated data reporting mechanisms) would have been helpful in allowing DH to more easily monitor and report numbers of UK volunteers engaged in the Ebola response in West Africa at any given time (an area of Ministerial interest). An in-country liaison office through which workers were required to check in and check out would have provided a single point of contact and potentially improved data quality, and significantly reduced the resource requirements of both PHE and Border Force in managing the returning worker scheme.

Key Lesson 22: It is always necessary to ensure that safe systems of working, agreed by NHS England, are in place for NHS volunteers.

Supporting the International Response – Vaccines

43. The cross-government Ebola Vaccines Programme was coordinated by Cabinet Office's National Security Secretariat, with key workstreams led by DH and DFID. DH led on the contribution of scientific, regulatory and clinical trial advice in support of the UK government and international action to accelerate progress towards developing and deploying safe and effective Ebola vaccines. The Programme also drew on advice from the Scientific Advisory Group on Emergencies (SAGE), which recommended that any available vaccine doses should prioritise groups at highest risk of contracting Ebola such as health care workers.

44. The overarching deliverables of this work were to enable the first production of vaccine doses to be deployed in clinical trials as soon as possible, as well as to develop the necessary infrastructure for scaling up vaccination campaigns, were the vaccines to prove safe and effective, and the situation to require it.

Key Lesson 23: UK Government to consider how improvements can be made to the development and deployment of drugs and vaccines in emergencies. This should include coordination of UK research and development for vaccines targeting epidemic and pandemic diseases and developing an international blueprint for clinical trials during emergency outbreaks. (This lesson is being taken forward through the cross-government Global Health Security programme).

Key Lesson 24: UK Government to consider the provision of liability protection for pharmaceuticals to minimise risk exposure during emergencies where pharmaceutical products are developed and deployed at pace in emergency contexts.

Ways of Working and Governance

45. The Ebola response successfully tested the emergency response arrangements of the new health and public health systems in England (following the Health and Social Care Act 2012). This was testament to the extremely close collaboration between DH, PHE and NHS England, supported by co-location, a clear focus on delivery, shared governance and mutual understanding of respective roles and areas of expertise.

46. Cross-government working generally worked well, with a unified 'one-government' response centred on a common purpose that was facilitated by COBR(M) and COBR(O). However, more could have been done at an early stage to ensure all Government Departments and ALBS involved in the response were aware of each other's respective roles and priorities. COBR(O) and the more informal FCO huddle meetings were effective in bringing partners together to rapidly solve any issues.

47. It will be important for PHE and NHS England to capture any learning from how they can best interface with the political COBR mechanism, but also it will be helpful for COBR to recognise earlier the expertise that these partners can bring.

Key Lesson 25: For future preparedness, it will be important for DH, PHE and NHS England to formalise their learning with regards to the requirements for rapidly establishing and sustaining a national emergency response team. These requirements include the need to get the right staff in with the right skills, with the appropriate support. The additional shared governance and co-location arrangements put in place between DH, PHE and NHS England were valuable in supporting close collaboration between partners.

Key lesson 26: Having established new and effective relationships across government and with partner organisations (e.g. NGOs and Border Force), there are benefits to maintaining these links, including to support ongoing clarity on respective policies and roles.

Key Lesson 27: There needs to be absolute clarity about accountability for taking forward decisions from COBR, to ensure that work is tasked efficiently. Wherever possible a lead department should be identified. As part of this, it is important to ensure all Government Departments and ALBS involved in an emergency response through COBR are aware at an early stage of each other's respective roles and priorities.

Key Lesson 28: Consideration needs to be given to how best to provide a clear explanatory narrative and rationale underpinning key decisions from COBR for a technical and scientific audience as well as the general public, as the former will often be engaged in the implementation of those decisions.

Key Lesson 29: The regular informal FCO "huddle" was helpful in supporting cross-government alignment and collaboration and served as a useful forum for partners to discuss solutions to key cross-government issues as they arose. Consideration could be given to formalising such an arrangement, perhaps through the introduction of more COBR sub-groups.

Key Lesson 30: The regular Four Nations Health Ministers Ebola meetings were useful for sharing information and supporting an aligned response across the UK. Subject to continued Ministerial agreement, it may be helpful for these meetings to continue periodically to discuss wider EPRR arrangements.

Conclusion

48. Overall, there has been a strong sense that the UK's response to the Ebola outbreak has represented a successful and unified collaboration across Government and partners to protect life globally and in the UK.

49. DH, PHE and NHS England are taking steps to ensure lessons identified from the Ebola response are embedded in the next phase of work to consider wider UK EPRR and Infectious Disease arrangements. This includes contributing to the cross-government UK Biological Security Strategy.

50. In terms of learning lessons from Ebola for future global health security, DH has outlined six work streams as part of a wider Global Health Security Programme and has convened a cross-Whitehall group, co-chaired with DfID. This should ensure we are better prepared for the next major outbreak of infectious disease or other similar health crisis, both in terms of UK capacity and ensuring that the international infrastructure is in place to rapidly respond. These work streams cover:

    i. 'Rapid Response' (improving UK capacity to support countries in responding to emergencies early on);
    ii. 'In-country Capacity/IHR' (to support international efforts to achieve global compliance with WHO International Health Regulations and strengthen the resilience of health systems in 'at-risk' countries);
    iii. 'Drugs, Vaccines, Diagnostics' (to improve preparedness through international horizon scanning of diseases with pandemic potential and develop an international framework for improving rapid development and deployment of health technologies in emergencies);
    iv. 'AMR' (secure international agreement for a Global Action Plan on AMR and support implementation);
    v. 'Preparedness and Response Finance' (creating an international framework for ensuring available finance to respond); and
    vi. 'Global Health Architecture' (securing international agreement on WHO reform and building stronger partnerships across the UN and the wider humanitarian system to make full use of all capability).

51. Further information either in relation to the lessons identified in this report or the more detailed and wide-ranging lessons identified processes undertaken by DH, PHE or NHS England, can be shared on request.

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Annex A: Summary of DH, PHE and NHS England Key Lessons from the Ebola Response

UK Domestic Response – Public Health Measures in England	
1.	PHE to review its National Incident and Emergency Plan (NIERP) to allow the establishment of a broad strategic group (e.g. Emergency Ebola Strategic Response Group) for PHE Level 3/ 4 responses. This group would ensure PHE staff can mobilise quickly and in numbers between PHE directorates, and would set up a well-resourced team that can horizon scan, scenario plan and develop contingencies, with options for senior decision makers.
2.	It will be important to factor-in the resource requirements for a prolonged national incident and emergency response, which may include the immediate deployment of trained staff as well as implications for day-to-day risk management for other public health programmes. A well-resourced PHE guidance cell will also be important for any such response.
3.	In preparing policy options in relation to a public health threat response, it is important to explicitly consider at the outset how the message to the public can encompass the scientific advice within the wider context of public and political reassurance.
4.	Government Departments and partner agencies should establish at an early point of a response their roles and responsibilities with regards to data, including the owner and lead for data exchange systems. This would facilitate regular assurance to Ministers and officials, based on a single version of accurate data. In doing so, it will be important to recognise the sensitivities and limitations of partner organisations' data.
5.	In a small number of cases, returning healthcare workers were unable to return to their homes immediately because of family concerns about close contact during the 21 day incubation period. Should this happen again, early recognition and communication of expectations will be important, as well as agreement of what arrangements might be made and by whom.
6.	The national, four nations and regional multi-agency Ebola exercises designed by PHE were key to testing and refining UK preparedness and response arrangements. There are further opportunities to better communicate the proportionate risk mitigation approaches adopted in each Devolved Administration to demonstrate coherence rather than apparent differential approaches.
UK Domestic Response – NHS Preparedness and Response in England	
7.	It was helpful that DH and NHS England put systems in place to facilitate senior clinicians and experts from across the country to come together to develop recommendations and share learning on NHS preparedness and surge capacity.
8.	Further work will be required between DH, NHS England and PHE to determine the most appropriate levels of PPE that should be maintained in the NHS for ongoing infectious disease preparedness in England. This work should be mindful of supply chain resilience issues.
9.	Further work will be required between DH, NHS England, PHE and cross-government partners (including Department for Transport, the competent authority) to ensure a robust system is in place for the movement of large quantities of category A clinical waste.

UK Domestic Response – Managing Medical Evacuations and Precautionary Extractions from West Africa	
10.	It will always be necessary to ask medevac providers to supply technical information so that NHS England can make an assessment of their interoperability with the NHS.
11.	Further work should be undertaken with partners involved in the medevac process to ensure consistent adherence to the principles outlined in the Caldicott Report on patient-identifiable information.
UK Domestic Response – Public Reassurance, Health System Engagement and International Action	
12.	Maintaining public reassurance levels in the UK provided a necessary underpinning for the UK's wider Ebola response approach. Critical to this was the central message that we could expect a handful of cases and we knew how to deal with them; this contrasted with the initial U.S. message - that Ebola was not a problem for the U.S. - which they later had to rectify.
13.	The Four Nations Ebola table top exercises at ministerial and official level were valuable in developing, agreeing and testing communications strategies across the Four Nations in the event of a confirmed Ebola case in the UK.
14.	It is important to ensure third-party spokespeople are in place early to ensure there are influential supportive voices adding weight to government messages. It is also important to gather insight from the public and staff to feed into and modify the communications strategy where necessary.
15.	The UK Ebola Communications Operational Plan (with agreed protocols for a number of scenarios) was key to supporting a coordinated and responsive communications approach to first and subsequent cases in the UK. DH, PHE and NHS England will adapt it to form part of wider health emergency communications planning.
UK Domestic Response – Public Health Legislation	
16.	There are currently different disease management controls and powers that are not systematic in approach at different types of ports of entry, or for different disease groups. There is an opportunity to review and align all relevant powers to allow logical stepped interventions from port through to community.
17.	As far as possible, operational demands should be addressed alongside policy and legal issues, although this will not always be straightforward.
18.	Cross government collaboration in developing draft emergency regulations was of vital importance in both establishing the policy and ensuring it was possible to operationalise it.

19.	Work undertaken during the Ebola outbreak will be considered as part of a legacy package of possible amendments to public health regulation.
Supporting the International Response – International Engagement	
20.	Cross-Whitehall coordination of international engagement efforts has been helpful in ensuring an effective and joined-up approach, with departments targeting where they have the best links, and duplication minimised.
Supporting the International Response – NHS and Public Health Volunteers	
21.	A single central register of volunteers (with a single point of contact and regular co-ordinated data reporting mechanisms) would have been helpful in allowing DH to more easily monitor and report numbers of UK volunteers engaged in the Ebola response in West Africa at any given time (an area of Ministerial interest). An in country liaison office through which workers were required to check in and check out would have provided a single point of contact and potentially improved data quality and significantly reduced the resource requirements of both PHE and Border Force in managing the returning worker scheme.
22.	It is always necessary to ensure that safe systems of working, agreed by NHS England, are in place for NHS volunteers.
Supporting the International Response – Vaccines	
23.	UK Government to consider how improvements can be made to the development and deployment of drugs and vaccines in emergencies. This should include coordination of UK research and development for vaccines targeting epidemic and pandemic diseases and developing an international blueprint for clinical trials during emergency outbreaks. (This lesson is being taken forward through the cross-government Global Health Security programme).
24.	UK Government to consider the provision of liability protection for pharmaceuticals to minimise risk exposure during emergencies where pharmaceutical products are developed and deployed at pace in emergency contexts.
Ways of Working and Governance	
25.	For future preparedness, it will be important for DH, PHE and NHS England to formalise their learning with regards to the requirements for rapidly establishing and sustaining a national emergency response team. These requirements include the need to get the right staff in with the right skills, with the appropriate support. The additional shared governance and co-location arrangements put in place between DH, PHE and NHS England were

	valuable in supporting close collaboration between partners.
26.	Having established new and effective relationships across government and with partner organisations (e.g. NGOs and Border Force), there are benefits to maintaining these links, including to support ongoing clarity on respective policies and roles.
27.	There needs to be absolute clarity about accountability for taking forward decisions from COBR, to ensure that work is tasked efficiently. Wherever possible a lead department should be identified. As part of this, it is important to ensure all Government Departments and ALBS involved in an emergency response through COBR are aware at an early stage of each other's respective roles and priorities.
28.	Consideration needs to be given to how best to provide a clear explanatory narrative and rationale underpinning key decisions from COBR for a technical and scientific audience as well as the general public, as the former will often be engaged in the implementation of those decisions.
29.	The regular informal FCO "huddle" was helpful in supporting cross-government alignment and collaboration and served as a useful forum for partners to discuss solutions to key cross-government issues as they arose. Consideration could be given to formalising such an arrangement, perhaps through the introduction of more COBR sub-groups.
30.	The regular Four Nations Health Ministers Ebola meetings were useful for sharing information and supporting an aligned response across the UK. Subject to continued Ministerial agreement, it may be helpful for these meetings to continue periodically to discuss wider EPRR arrangements.