- 1. Exercise Cygnus demonstrated four key learning outcomes for the UK's preparedness and response capabilities, which are supported by 22 detailed lessons against the eight Exercise Objectives.
- 2. An overview is presented against the Key Learning Themes, while specific work is mapped to the 22 individual lessons identified.

Ref.	Learning theme	Overview	Key progress
KL1	The development of a Pandemic Concept of Operations would increase understanding of the UK's Pandemic Influenza Response.	The development of an overarching pandemic influenza concept of operations, which would assist with the operationalisation of the response at a strategic and tactical level by describing the role of organisations in the pandemic influenza response, how those organisations interact and key guidance and plans for each of the response elements	Currently, the overarching UK arrangements for responding to an emergency are described in the Central Government Arrangements for Responding to an Emergency – Concept of Operations.  Developing a UK Pandemic Concept of Operations was paused due to Operation Yellowhammer but is also dependent on the UK Influenza Pandemic Preparedness Strategy 2011 being updated.  Wales has issued the Pandemic Influenza Preparedness and Response Framework which sets out the roles of NHS and social services through the phases of a pandemic. This Framework links to an overarching and well established Wales Response Plan that sets out the Welsh Government coordination and engagement with LRFs
KL2	The introduction of legislative easements and regulatory changes to assist with the implementation of the response to a worst case scenario pandemic should be considered	The Government should review the legislative options, which might include easements and regulatory changes, that would assist with the operationalisation of health care surge arrangements and keeping essential services running	Welsh Government officials have been fully involved with the UK Civil Contingencies Secretariat (CCS) and DHSC, working across Government developed a draft Pandemic Influenza Bill. This draft four nations Bill formed the initial basis of the Coronavirus Act 2020.

KL3 The public reaction to a reasonable worst case pandemic influenza scenario needs to be better understood	Research into the potential impact on the public perception of and reaction to an influenza pandemic which matches the UK's worst case planning scenarios would assist with the development of emergency plans and the communication strategies that would be used to help implement them.	At UK level, the National Institute of Health Research (NIHR), on behalf of DHSC, holds a number of "sleeping contracts" for the provision of research support in the event of a future influenza pandemic.
		One such contract is for "Evaluating and improving communication with the public during a pandemic, using rapid turnaround telephone surveys". The results of this research into the behavioural impact of any pandemic and how HMG communications were being received would inform the development of messaging during the pandemic.
		All sleeping contracts were reviewed following Exercise Cygnus to ensure that they continued to meet anticipated operational requirements.
		The Welsh Government Communications Division is engaged in the work being undertaken at the UK level to revise the UK Communications Plan in the light of the findings of Exercise Cygnus. Information relating to Wales in this plan has been updated rather than developing a separate plan.
		Public Health Wales has been engaged in this work in relation to confirming the point of contact for communications is still the same, the various responsibilities relating to communications and designated spokespeople. Further consultation will take place with the Health Board Heads of Communications, Welsh Government Press Office, CMO and the Chief Executive of NHS Wales.
		Currently this work is paused due to the diversion of key staff to ongoing response activities.
		At the time of pausing this work, a draft Communications Strategy had been agreed with the CMO's of England and the Devolved Administrations. This draft Strategy sets out agreed messaging for use the Government at each stage of the response to a future influenza pandemic, including communications support while services are surged/reconfigured to respond to the massive increase in demand.
		The Independent Scientific Pandemic Influenza Group on Behaviours (SPI-B) was established to support the Scientific Advisory Group for Emergencies (SAGE) in developing an understanding of how the public may react in the context of the current COVID-19 response. This group would be stood up to advise Government in the event of a future influenza pandemic.
		Welsh Government has established a Wales Morals and Ethics Group to advise on moral, ethical and faith considerations during the response to emergency
		The Wales Group links to and the UK Moral and Ethical Advisory Group (MEAG). This is a group of experts / advisors to advise UK Government on moral, ethical and faith considerations to support the development of policies and response plans both in advance of, and during, a pandemic

KL4	An effective response to pandemic influenza	The lack of joint tactical level plans was evidenced when the scenario	Welsh Government officials have been part of workstreams initiated following
	requires the capability and capacity to surge	demand for services outstripped the capacity of local responders, in the	Exercise Cygnus. This included a focus on
	resources into key areas, which in some	areas of excess deaths, social care and the NHS.	
	areas is currently lacking		acute care;
			community care and social care.
			Excess deaths
			A Welsh Government Pandemic Planning Group was established to consider the implications of the UK work in Wales and support LRF preparedness.
			During the COVID emergency, capacity planning has been a feature of our arrangements in order to respond to a surge in the NHS

Î	Ref. Lesson identified	Status	Notes
L	In the control of the	Completed	A Pandemic Influenza LRF checklist outlining the key multi-agency planning areas has been issued to guide planning in Wales. A Pandemic Flu Resilience Standard, outlining how Local Resilience Forums (LRFs) should prepare for an influenza pandemic has also been published on Resilience Direct.  In order to support NHS Wales organisations ensure that lessons identified become lessons learned, NHS Wales have developed the NHS Wales Lessons Identified Register which is stored on Resilience Direct. The register enables NHS Wales to  • identify common themes arising from recommendations/lessons after incidents and exercises  • provide a tool to provide assurance that lessons have been acknowledged and learnt  • support organisations in meeting statutory duties under the Civil Contingencies Act 2014  • support development of a work/training programme on all Wales basis and at organisational levels  • assist in shaping the Welsh Government annual reporting process  • assist NHS organisation in the preparation of their respective annual work programmes  • provide a robust process to prioritise work/training programmes/streams moving forward.
			There are LRF multi-agency lessons identified in place for sharing best practice

LI2	Pandemic Influenza Planning should be considered a multi-agency responsibility. Specialist advice from all stakeholders needs to be available to SCGs in order for them to respond appropriately. During an influenza pandemic the manner in which specialist technical and sector specific advice is provided to local responders should be 'scaled up' so that support can be provided to multiple LRFs.	Completed	Pandemic Influenza planning is a cross-Government effort to ensure all sectors and local organisations are represented.  WG works with LRFs on their multi-agency pandemic plans and this includes having a Wales Pandemic Planning Group to ensure the linkages between the UK and Wales work compliment LRF planning  More broadly, the Cabinet Office works with UK Departments and DAs to assure and validate crisis response planning and in the case of significant cross cutting risks, can help shape training and exercising activity. An example of this was the recent crisis response training and exercising undertaken across departments during Operation Yellowhammer  During COVID 19, PHW established a strategic all Wales Group to advise the 4 SCGs in Wales
LI3	National level planning which considers the operationalisation of local level pandemic flu plans should be undertaken.	Ongoing	Following discussion of the outcomes from Exercise Cygnus at a meeting of NSC (THRC) chaired by the PM a programme of UK work was endorsed. This work, is being taken forward by the Pandemic Flu Readiness Board, which includes WG representatives. This work continues.  To operationalise the outcomes in Wales, the WG established the Wales Pandemic Influenza Group, which includes the chairs of the 4 LRF Pandemic Flu Groups. It is anticipated that this work will continue
LI4	Meetings of the four health ministers and CMOs should be considered best practice and included as part of the response 'battle rhythm'.	Complete	There have been meetings involving the 4 Health Ministers and is part of the operational planning for a future influenza pandemic and currently occurring as part of the current response to Covid-19.  Lessons identified from the coordination of the response to the current covid-19 pandemic will also need to be reflected in planning for future pandemics.
LI5	Further work is required to inform consideration of the issues related to the possible use of population-based triage during a reasonable worst case influenza pandemic.	Complete	Surge guidance has been issued in Wales and draft extreme surge guidance developed. The option of population triage has been considered and this links into the establishment of a UK Morals and Ethics Group that includes WG representation  Implementing policies such as population triage is a last resort and has both moral and ethical implications. To provide moral and ethical advice in support of decision making, both in advance of and during, a pandomic a Moral and Ethical Advisory Group.
LI6	Further work is required to consider surge arrangements for a Reasonable Worst Case Scenario pandemic. This work should be led by NHS England (on operational aspects), with DH providing oversight, assurance and policy direction with input from the Four Nations CMO meeting.	Complete	both in advance of, and during, a pandemic a Moral and Ethical Advisory Group (MEAG) has been established at a UK level, there is also a Wales MEAG to provide advice to the CMO.

LI8	PHE and NHS England should continue working together to further develop the existing community protocols for delivery of antivirals with particular consideration being given to the manner in which these arrangements are communicated to NHS Emergency Preparedness staff at the local level.  All organisations should examine the issues surrounding staff absence to provide greater clarity for planning purposes	Ongoing (because plans to deploy clinical countermeasures in response to a future influenza pandemic are kept under review)  Ongoing  Complete	UK plans for a future influenza pandemic support a strategy that seeks to minimise spread of infection and treat individual cases.  An established clinical countermeasures programme, including stockpiles to ensure access to antiviral medicines in the event of a pandemic are a key part of our plans because, when used to treat influenza, they can reduce the length of symptoms, their severity, and the likelihood of serious complications. Stockpile quantities and plans for the use of antivirals are based on robust scientific; clinical and operational advice. These plans are kept under review.  To a certain extent, the final development of a strategy for the use of antivirals in a future pandemic is dependent on the characteristics of the pandemic strain of influenza in circulation. As soon as this information is known expert advice would be sought from the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG). This advice will inform:  a refresh of clinical guidelines for the use of antiviral medicines specific to the circulating strain of influenza; and the content of the clinical algorithm used by the National Pandemic Flu Service to provide access to antivirals.  The use of antivirals in a future influenza pandemic will also be informed by the stockpile composition. A commercial exercise to re-contract with suppliers of these medicines is underway. This procurement programme includes, as a condition of HMT approval, a review of the product mix within the stockpiles.  In Wales we have plans for distributing antivirals to Health Boards and for onward distribution through pharmacies or other premises.  At the UK level CCS has led a programme of work to ensure that Departments were confident that their key sectors have adequate resilience to anticipated levels of employee absence (both peak and duration) during a severe influenza pandemic.  At WG level, departments have been alerted to the need to review the resilience of their sector stakeholders  Through Yellowhammer planning and COVID, Welsh Governm
LI10	Pandemic communications plans should be developed to ensure that they provide necessary reassurance, provide adequate levels of information to the public across the UK and are tailored for specific policy interventions where required.	Year 1- Paused	<ul> <li>This was identified as a two-year programme of work by the UK PFRB:</li> <li>Year 1 – update, improve and consolidate public health communications messages;</li> <li>Year 2 - broaden and operationalise work completed in year 1. Includes development of coherent and planned cross-Government communications messages and a Comms Concept of Operations.</li> </ul>

LI11	Procedures for coordination of messaging to the public should be reenforced and practised by DH, NHS England and PHE national teams alongside colleagues from the Devolved Administrations  The communications response to a pandemic is supported by involving a wide-range of stakeholders in its development and implementation.	Year 2 -Paused	Currently this work is paused due to the diversion of key staff to ongoing response activities.  At the time of pausing this work, a draft Communications Strategy had been agreed with the CMO's of England and the Devolved Administrations. This draft Strategy sets out agreed messaging for use the Government at each stage of the response to a future influenza pandemic, including communications support while services are surged/reconfigured to respond to the massive increase in demand.  Upon completion of all PFRB workstreams, including the publication of a revised UK wide pandemic preparedness strategy, consideration will be given to updating the public communications strategy (last refreshed in 2012) which explains:  • roles;  • responsibilities;  • the overarching principles of communications during a pandemic; and
LI13	A cross-government working group should be established to consider carefully the information required to guide the response. The method of situation reporting should be considered with a view to simplifying the process and avoiding duplication of effort.	Complete (but kept under review)	what the public might expect to receive as the response progresses.  Welsh Government Emergency Co-ordination Centre co-ordinates the information flows to SCGs to provide one source of information between UK, WG and SCGs in Wales  Health & Social Services Group has issued the Health and Social Services Pandemic Preparedness and Response Plan. This document sets out roles and responsibilities at a Wales, NHS and Social Services level through the pandemic phases  This document, recognising the scale of any pandemic response, also sets out the planning responsibilities of NHS organisations at all levels.
		Complete (but kept under review)	The UK Government's Concept of Operations describes how the UK central government response will be organised. Situation reporting continued to develop since exercise Cygnus, including developments to Resilience Direct. Other incidents, including flooding and a no deal Brexit have informed the process for situation reporting from the local level.
LI14	The Department for Education, in liaison with colleagues in the Devolved Administrations, should study the impact of school closures on society.	Ongoing	There have been discussions between Welsh Government, education officials and Department of Education, particularly during the development of the Pandemic Flu draft Bill and COVID 19 Act
		Complete	In response to work undertaken since Exercise Cygnus the draft Pandemic Influenza Bill, prepared for use in the event of a future influenza pandemic, includes clauses and instructions to manage societal impacts of a pandemic and aid the response.
LI15	Consideration should be given to the impact of a pandemic influenza on British Nationals Overseas.	Ongoing	
	DITUSTI IVALIOTIAIS OVEISEAS.	Complete (and routinely reviewed)	An update to the methodology used in the National Security Risk Assessment 2019 means that the Reasonable Worst Case Scenario (RWCS) for a future influenza-type pandemic (R95) now provides an assessment of both the domestic risk, and the risk to UK nationals overseas and UK interests. This change in methodology means that since 2019 all Government departments have been able to base pandemic planning on both the impacts felt domestically and any human welfare impacts felt on UK nationals overseas.

LI16	Expectations of the Ministry of Defence's capacity to assist during a reasonable worst case scenario influenza pandemic should be considered as part of a cross-government review of pandemic planning.	Complete	Significant work has been undertaken by MOD to identify potential response activities where military assistance could be provided given current capacity and capability. During COVID 19 military support has been invaluable in Wales and is being fully considered  However, military support to any future influenza pandemic would need to be considered at the time on a case-by-case basis in line with normal processes for the provision of Military Aid to the Civil Authorities (MACA). This is because it is not possible to predict available capacity given the potential demands of other operations or the impact of the pandemic strain of influenza upon military personnel.
LI17	The process and timelines for providing and best presenting data on which responders will make strategic decisions during an influenza pandemic should be clarified.	Ongoing	The process and timeline for sharing information with responders can vary between incidents. Work has been done to improve this generally e.g. improvements to Resilience Direct, and engagement with CNI through the lead Government departments. However, there has not been specific work on the process for data sharing in an influenza pandemic.  Where scientific advice is required to support response to a crisis the Civil Contingencies Secretariat works closely with the Government Office for Science to ensure there is a single source of scientific advice (through SAGE - the Scientific Advisory Group for Emergencies).  In addition Welsh Government has put in place a Technical Advice Cell during COVID 19 to provide advice to the CMO and to inform response planning
LI18	A methodology for assessing social care capacity and surge capacity during a pandemic should be developed. This work should be conducted by DCLG, DH and Directors of Adult Social services (DASS) and with colleagues in the Devolved Administrations	Year 1- Complete	<ul> <li>This was identified as a two-year programme of work by the PFRB:</li> <li>Year 1 – develop policy options for social care and community health care surge; then</li> <li>Year 2 – Agree reporting routes for Adult Social Care to during a pandemic, and, review and update / publish guidance for the sector.</li> <li>Welsh Government Social Services Integration Directorate officials have been linked into the DHSC workstream and are working to develop Wales's arrangements. Planning to develop robust data and operational relationships with the social care sector continues and has developed significantly through the COVID 19 response.</li> <li>Plans to issue guidance to the Adult Social Care sector are linked to a wider refresh of the guidance and strategy documentation for a future influenza pandemic.</li> </ul>
LI19	The possibility of expanding social care real-estate and staffing capacity in the event of a worst case scenario pandemic should be examined	Year 2 -Paused	
LI20	DH, NHS England, CCS and the Voluntary Sector and relevant authorities in the Devolved Administrations should work together to propose a method for mapping the capacity of and providing strategic national direction to voluntary resources during a pandemic. Given the experience of Exercise Cygnus, it is recommended that this work draws on the expertise of non-health departments and organisations at national and local level.	Ongoing	Wales voluntary agencies are integrated into local emergency planning arrangements

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LI21	Cabinet Office, Home Office, DCLG, MOD, DWP, MOJ and DH should work together to review the capabilities for managing excess deaths during an influenza pandemic, make recommendations for defining the required level of capability and the means to achieve it. This work should include provision within Wales.	Ongoing	Welsh Government has issued guidance on excess deaths in response to COVID 19 and there is an ongoing planning group addressing the practical issues arising from managing excess deaths.
LI22	Further work is required in the development of pandemic contingency plans and related procedural guidance.	Paused	Some procedural guidance has been updated (see above, a wider update is planned to include  • public facing guidance for the general population and businesses; and • guidance documentation for those national, regional and local agencies with a role in pandemic planning.  The first of these will be addressed through an update of the UK Influenza Pandemic Preparedness Strategy 2011and associated guidance published on Gov.UK. Guidance aimed at the resilience community will be more detailed where applicable and cascaded via Resilience Direct  The overarching strategy document, setting out an updated UK wide strategic approach to a future influenza pandemic, cannot be progressed at this time as it is dependent on completion of all PFRB workstreams.