

Witness Name: Dr Quentin Sandifer OBE

Position: Consultant Adviser - Pandemic and International Health

Statement No.: First

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**UK COVID 19 INQUIRY
MODULE 1**

**FIRST CORPORATE WITNESS STATEMENT
OF DR QUENTIN SANDIFER OBE FOR MODULE 1**

I, Dr Quentin Sandifer OBE, care of Public Health Wales, 2 Capital Quarter, Tyndall Street,
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Will state:

1. This Corporate Witness Statement is provided in my capacity as a Consultant Adviser for Pandemic and International Health for Public Health Wales in response to a request for evidence made by the Inquiry Team to Public Health Wales dated 24th November 2022.
2. For the period from October 2012 to December 2020, I was Executive Director for Public Health Services / Medical Director at Public Health Wales. This role included Executive level responsibility for Emergency Planning and Response.
3. Public Health Wales has been appointed as a Core Participant for Module 1 and Module 2B.

4. This statement focuses on the role of Public Health Wales in the context of planning and preparedness prior to the Covid-19 Pandemic but, in particular, for the period of time between the following two dates ("the proposed date range"):
 - a. **11 June 2009**, which is when the World Health Organization ("WHO") announced that the scientific criteria for an influenza pandemic had been met for what became known as the 2009-2010 Swine Flu Pandemic; and
 - b. **21 January 2020**, which is the date on which the WHO published its 'Novel Coronavirus (2019-nCoV) Situation Report - 1'.

Overview of Public Health Wales

5. The NHS in Wales underwent major change in 2009, in light of the Welsh Government's One Wales Strategy. This determined that the delivery of the NHS in Wales needed redesigning in order to improve health outcomes and ensure that the NHS delivered care effectively with its partners.
6. As a result, seven health boards and three NHS trusts were established at that time. All these bodies are bodies corporate, each having a distinct legal identity. Health boards have specific geographical areas and their responsibilities include:
 - a. improving physical and mental health outcomes
 - b. promoting well-being
 - c. reducing health inequalities across their population
 - d. commissioning services from other organisations to meet the needs of their residents.
7. The three NHS trusts operate on an All-Wales basis and are responsible for public health (Public Health Wales), ambulance services (Welsh Ambulance Service) and cancer and blood services (Velindre). In addition, there are also two Special Health Authorities that have been subsequently established (Digital Health and Care Wales and Health Education and Improvement Wales) and a number of support organisations hosted by local health boards and NHS Trusts, such as the NHS Wales Shared Services Partnership.

8. Public Health Wales was established in 2009, by the Minister for Health and Social Services, following a review of public health functions of national health organisations and units in Wales, which was undertaken in 2006. The formation of a unified public health organisation was announced on 30 September 2008. This set out the establishment of an independent NHS body that incorporated the functions from a number of pre-existing entities: the National Public Health Service for Wales (NPHS), the Wales Centre for Health (WCfH), the Welsh Cancer Intelligence and Surveillance Unit (WCISU), Screening Services and the Congenital Anomaly Register and Information Service (CARIS). This meant that, for the first time, an independent NHS body was created in Wales with a clear and specific public health remit to provide professionally independent public health advice and services. Further detail is set out within the organisation's Standing Orders [**Exhibit 1 - INQ000089556**].
9. Public Health Wales provides data and science-based leadership, specialist public health expertise, coordination and advice, and delivery of key public health services (e.g. population screening, microbiology and health protection).
10. Protecting and improving population health outcomes and tackling inequalities can only be achieved through working in partnership with others. Public Health Wales works closely with health boards, local authorities and other partners including education, housing, emergency services and the third sector. We have a range of agreements with a number of organisations both within Wales and internationally. This includes Memoranda of Understanding with each of the Health Boards and Trusts in Wales detailing governance structures and commitments, and with police and criminal justice partners in Wales to support a public health approach to their services. We also host cross-organisational networks, collaborations and support hubs including:
 - a. Building a Healthier Wales – a multi-agency collaboration to shift to prevention.
 - b. Public Health Network Cymru – a resource established for professionals working on improving the health and wellbeing of the population of Wales that connects a broad network of partners focused on sharing and learning across the breadth of public health
 - c. Adverse Childhood Experiences (ACEs) Support Hub – a resource led by the organisation that works across all sectors to embed an ACEs and trauma-informed Wales

- d. First 1000 Days Programme – a programme led by the organisation across partners in Wales to build and disseminate the best available evidence for improving outcomes and reducing inequalities in the first 1000 days – during pregnancy and to a child's second birthday
 - e. A number of national Improvement Networks such as Q Network and Health Foundation – Q Lab – a resource coordinated by the organisation to support the improvement of health and care for people in Wales.
- 11. Public Health Wales protects and improves health and well-being and reduces health inequalities for the people of Wales. The Trust is established for the purpose specified in section 18(1) of the NHS (Wales) Act 2006 and has four statutory functions set out in Part 3 of its Establishment Order. These are to:
 - a. provide and manage a range of public health, health protection, healthcare improvement, health advisory, child protection and microbiological laboratory services and services relating to the surveillance, prevention and control of communicable diseases;
 - b. develop and maintain arrangements for making information about matters related to the protection and improvement of health in Wales available to the public in Wales; to undertake and commission research into such matters and to contribute to the provision and development of training in such matters;
 - c. undertake the systematic collection, analysis and dissemination of information about the health of the people of Wales in particular including cancer incidence, mortality and survival; and prevalence of congenital anomalies;
 - d. provide, manage, monitor, evaluate and conduct research into screening of health conditions and screening of health related matters.
- 12. In addition, Public Health Wales is a Category 1 responder, as defined by the Civil Contingencies Act (2004), and therefore plays a key role in relation to the preparation for, and response to, any emergency and major incident. This requires us to meet a range of civil protection duties as set out by the Act.

13. In 2018, Public Health Wales launched its long-term strategy 2018 – 2030 – *Working to Achieve a Healthier Future for Wales* [Exhibit 2 - INQ000089568], which sets out the organisation's seven strategic priorities. The organisation's strategic priorities are:
- a. **Influencing the wider determinants of health:** collaborate with others to understand and improve factors that impact on everyone's health.
 - b. **Improving mental well-being and building resilience:** help everybody to realise their full potential and be better able to cope with challenges that life throws at us.
 - c. **Promoting healthy behaviours:** understand the drivers of unhealthy behaviour and make healthy choices easier for people.
 - d. **Securing a healthy future for the next generation through a focus on early years:** work with parents and services to ensure the best start in life for all children in Wales.
 - e. **Protecting the population from infection and environmental threats to health:** apply our expertise to protect the population from infection and threats from environmental factors, working in collaboration with others to mitigate these risks to human health.
 - f. **Supporting the development of a sustainable health and care system focused on prevention and early intervention;** this is achieved via partnership and collaborative working.
 - g. **Building and mobilising knowledge and skills to improve health and well-being across Wales:** develop the skills, policy, and evidence-based knowledge to help us and our partners improve health and well-being.
14. NHS Wales planning requirements are set out by the Welsh Government in the NHS Wales Planning Framework (issued annually). This requires NHS bodies to produce Board-approved and financially-balanced three-year Integrated Medium Term Plans (IMTP) which then require approval from the Minister for Health and Social Services.
15. In 2019-20, Public Health Wales' IMTP [Exhibit 3 - INQ000089578] set out how the organisation would deliver its long-term strategy and seven strategic priorities. In particular, it set out how we would protect the population from infection and threats to

health. Action within this area was focused around strengthening our infection services (e.g. microbiology and health protection), providing system-leadership and specialist public health advice around key risks (e.g. antimicrobial resistance, healthcare associated infections and environmental hazards) and in discharging our responsibilities as a Category 1 responder. In addition, the plan set out how the organisation would work with partners to reduce health inequalities arising from long term conditions such as obesity, cancers, heart conditions, stroke, respiratory disease and dementia. The plan set out how Public Health Wales would continue to work with partners to address the causes of poor health and health inequalities, particularly in relation to the wider determinants of health.

16. Since Public Health Wales was formally established in 2009, the senior management team has changed significantly. The Chief Executive, since 2014, has operated a corporate level Business Executive team structure where collective decision making at a corporate level is a key feature, in addition to each Director having clear accountability and responsibility for their specific portfolio.
17. In specific terms, the two key roles from the senior management team in relation to the scope of module 1 are the Chief Executive, who is also the Accountable Officer, and the National Director of Health Protection and Screening Services / Executive Medical Director. The latter title changed in 2021 and was previously known as the Executive Director Public Health Services / Medical Director.
18. **Exhibit 4 - INQ000089591** provides an overview of the staff who filled these posts from establishment to the current time.
19. The Chief Executive has overall operational accountability for the organisation. The National Director of Health Protection and Screening Services / Executive Medical Director is accountable for the development and delivery of services in relation to their directorate remit, namely microbiology, screening programmes, health protection and pathogen genomics. The role is also the professional medical lead for the organisation, the Caldicott Guardian and has joint responsibility for clinical governance with the Executive Director of Quality, Nursing and Allied Health Professionals. Responsibility for emergency response, advice to Government within the remit of the directorate and the legal requirements of the Civil Contingencies Act 2004 are within the remit of the National Director of Health Protection and Screening Services / Executive Medical Director.

20. The Public Health Wales Board is accountable for the highest level of decision making for the organisation. This includes the approval of the Long-Term Strategy and supporting business plans and key policies including the Emergency Response Plan. In summary, the Board has responsibility for:
- a. Setting the strategic direction
 - b. Setting the governance framework
 - c. Setting organisational culture and development
 - d. Steering the risk appetite and overseeing strategic risks
 - e. Developing strong relationships with key stakeholders and partners
 - f. Successful delivery of Public Health Wales' aims and objectives.
21. The Board operates a scheme of delegation **[Exhibit 5 - INQ000089603]** which identifies relevant areas of delegation to the Chief Executive and the Executive Team. The scheme of delegation also identifies matters reserved for the Board which outline what the Board retains for its own decision making.
22. The Public Health Wales Board is a unitary Board and functions as a corporate decision-making body, with Executive Directors and Non-Executive Directors being full and equal members and sharing corporate responsibility for all decisions. Since April 2022, it comprises a Chairperson, seven Non-Executive Directors (also known as Independent members), all of whom are appointed by the Minister for Health and Social Services, and six Executive Directors, including the Chief Executive.
23. On the 21 January 2020, the Board was comprised of a Chairperson, six Non-Executive Directors (also known as Independent members), all of whom are appointed by the Minister for Health and Social Services, and five Executive Directors, including the Chief Executive.
24. In addition to their role as Board Members, Executive Directors also have responsibility for discharging Public Health Wales' corporate and public health functions.

25. Public Health Wales has five Board Committees, all of which have delegated functions from the Board to assist the Board in fulfilling its wide-ranging role. The Board Committees as at January 2020 were:
- a. Audit and Corporate Governance
 - b. Quality, Safety and Improvement
 - c. People and Organisational Development
 - d. Knowledge, Research and Information
 - e. Remuneration and Terms of Service.
26. The Local Partnership Forum, a group that brings together managers and trade union colleagues, also reports to the Board.
27. On the 21 January 2020, Public Health Wales was operating from 54 venues across Wales which was comprised of office accommodation, laboratories and screening venues as listed at **Exhibit 6 - INQ000089618**. In a number of these locations, our teams were co-located with partners who owned the premises.
28. Of the 54 venues, eight were laboratories.
29. The total head count of Public Health Wales employees as at 21 January 2020 was 1949 and the total Whole Time Equivalent was 1701.5 staff.
30. The organisational structure was revised in 2015-2016, which led to the re-configuration of directorates and new appointments to the Executive Team [**Exhibit 7 - INQ000089637**]. During the proposed date range, Public Health Wales has ensured that its structure has always included an Executive Director with responsibility for Emergency Planning and Response.
31. Since 2009, Public Health Wales has grown considerably and the organisation has taken on, and internally developed, additional and new functions. This has included developments in the areas of:

- a. policy, research and international health (reflected in our designation as a World Health Organization Collaborating Centre in Investment for Health and Well-being)
 - b. data, knowledge and research with the establishment of a directorate specifically focused on maximising the use of digital, data and evidence to improve public health
 - c. our core public health services, particularly microbiology and health protection, along with adopting new laboratory methods such as molecular diagnostics and whole genome sequencing, through our Pathogen Genomics Unit.
- 32. This has seen us increase staff by 42%, with the largest growth in the following Professional Groups:
 - a. Additional Clinical Services (which includes roles such as healthcare support worker (HCSW), Biomedical Support Worker, Retinal Photographer, Associate Practitioner, Screening Officer, Screening Administrator, Medical Secretary) – 62% increase
 - b. Administrative and Clerical (which includes roles such as Project/Programme worker, Administrator, Information Analyst, Epidemiologist, Public Health Intelligence Analyst, Specialist Analyst Programmer, Evidence and Knowledge Analyst, Business Analyst, Senior Improvement Analyst) – 45% increase
- 33. The addition of new skills, expertise and ways of working has enabled us to provide expertise across the breadth of public health areas. From this stronger base we have aligned all of our functions and services to the key public health challenges. This has involved significant redesign of our organisation to better support us in delivering our priorities.
- 34. The fundamental organisational structure of Public Health Wales did not change during the pandemic although response structures were established.
- 35. We have expanded in both our headcount and operating expenses since the start of the COVID-19 pandemic, as a result of additional Welsh Government investment. This has largely been through capital and revenue business cases to the Welsh Government, focused on further strengthening our microbiology and health protection

functions. The two key investments came through the creation of a new microbiology laboratory at Imperial Park 5, Newport, which was approved by the Welsh Government on the 2 June 2020, and a COVID-19 testing business case with the development of six new hot labs approved on the 16 September 2020. The new hot labs were fully operational in November 2020.

36. We have grown from 1701.5 in January 2020 to 2263 Whole Time Equivalents in 2021-2022 (an increase of 26%). This has been driven mainly by recruitment within the Health Protection and Screening Directorate. Our operating expenses have also increased during the same time-period. Operating expenses during 2019-2020 were £152.952m and increased to £259.554m in 2021-2022.
37. Full details of how Public Health Wales changed and adapted during the course of the pandemic can be found within the witness evidence and documents submitted by Public Health Wales for Module 2B.
38. In summary however, during the pandemic response phase, Public Health Wales prioritised the need to deliver an effective health protection and microbiology response (which included significant upscaling of our microbiology services), while utilising our expertise in relation to behavioural insights and change, evidence and research, prevention and national/international horizon scanning. This has supported policy development, advice, guidance and resources, in tackling both the communicable disease elements of the pandemic and the broader direct and indirect population health harms.
39. Several changes governance arrangements were made to ensure that we were able to effectively perform our role. These changes included, but were not limited to:
 - a. the appointment of an internal lead Strategic Director and two additional Strategic Directors.
 - b. the appointment of internal Incident Directors to manage the day-to-day response to the pandemic
 - c. the implementation of our emergency response plan, which includes the standing up of Gold and Silver groups and an Incident Management Team.
 - d. the establishment of a Population Health Group to focus on the broader indirect health harms resulting from Covid-19.

- e. a change to the internal Executive meeting structure from the period of April 2020 to June 2020.
 - f. a change in frequency and focus of our Board meetings to ensure the whole Board was sufficiently briefed and fulfilled its strategic direction and assurance role.
40. In terms of the roles and responsibilities Public Health Wales had during the pandemic, Public Health Wales played a key role in supporting the public, the Welsh Government and partners including the NHS, social care, local authorities, education, businesses and the third sector during our response to Covid-19. We provided system leadership across a number of key areas through the provision of specialist and expert public health advice, information, intelligence and support.
41. In exercising its role and functions, Public Health Wales was not held back in any way by the funding made available by the Welsh Government. There are no examples of insufficient funding curtailing the ability to fulfil Public Health Wales' role and functions in a timely manner in relation to the pandemic.
42. As at January 2020, the **Public Health Services Directorate** was responsible for all the national screening programmes, health protection services, and clinical and laboratory microbiology. In January 2020, the Public Health Services directorate employed 1066 staff across its screening, health protection, and microbiology services.
43. The purpose of **Screening** services is the early detection, prevention and treatment of specific diseases or conditions. The Screening services were either delivered by Public Health Wales to the point of detecting an abnormality, when participants transition into the secondary care part of the pathway (breast, bowel, and cervical cancer, diabetic eye screening, new-born bloodspot, new-born hearing, abdominal aortic aneurysm screening), or were delivered by other bodies but coordinated by Public Health Wales (antenatal screening).
44. The purpose of **Health protection** services is the protection of the population from harm caused by communicable diseases or environmental hazards, undertaking disease surveillance, providing information and advice, and taking action in response to threats, for example, communicable disease outbreaks. Although recognised by Public Health Wales as a corporate responsibility, the Health Protection Division

hosted and co-ordinated the public health emergency preparedness and response / business continuity function.

45. **Microbiology** services provided a network of services to support the diagnosis and clinical management of infectious diseases.
46. In January 2020, the key internal structure for the emergency preparedness, resilience and response (EPRR) function was the Public Health Wales Emergency Planning and Business Continuity Group. It was responsible for the coordination and delivery of Emergency Planning and Business Continuity activity across the organisation and operates in accordance with its terms of reference **[Exhibit 8 - INQ000089648]**.
47. Following a proposal submitted to the Emergency Planning Assurance Group on the 30 August 2018, titled 'A proposal to merge the Emergency Planning and Business Continuity groups' **[Exhibit 9 - INQ000089650]**, the Emergency Planning Assurance Group and the Business Continuity Group were merged to create the **Emergency Planning and Business Continuity Group**. The Group is chaired by the Emergency Planning and Business Continuity Executive Lead and comprises of Emergency Planning and Business Continuity Leads from across Public Health Wales Directorates.
48. The structure of the **Communicable Disease Surveillance Centre** (CDSC) within the Health Protection division is based on five subject groups, as follows:
 - a. Vaccine Preventable Disease Programme (VPDP) and Respiratory Disease
 - b. Healthcare associated infections
 - c. Sexually transmitted infections, Blood-borne viruses and Tuberculosis
 - d. Gastrointestinal, zoonotic and emerging infections
 - e. Field epidemiology, research and development (of surveillance and other methods), strategy and training, community surveillance.
49. All areas are underpinned by support from Informatics, through embedded staff working alongside CDSC in order to share expertise in disease surveillance and information systems.

50. The subject groups are managed by the CDSC leadership, comprising the (currently) two consultant epidemiologists including the CDSC professional lead, VPDP lead, and consultant microbiologist. Consultants also have professional lead roles in line with their subject groups.
51. CDSC provides surveillance, epidemiology, training and scientific advice related to communicable diseases and other infections of public health relevance. It integrates scientific and clinical expertise to provide information for action to protect and improve public health, working with partners in the NHS, local authorities and national regulatory bodies. Quality improvement is built into this service, allowing for optimisation of analysis and outputs.
52. CDSC undertakes the following key activities;
- a. **Surveillance:** collecting, interpreting and improving routine data for publication and presentation including routine reports and ad hoc requests and developing access for service providers to analyse data to produce information for action.
 - b. **Field investigation of outbreaks and emerging problems:** gathering and analysing data as required, to produce timely recommendations for disease control.
 - c. **Scientific advice** for communicable disease prevention and control.
 - d. **Training** for communicable disease surveillance, prevention and control.
 - e. **Research**, including applications for and delivery of research grants. For example, under the leadership of the Oxford Vaccine Group, our Communicable Disease Surveillance Centre contributed to the meningococcal carriage intervention study in partnership with Health and Care Research Wales.
 - f. **Provision of data and evidence** in support of disease programmes and priority areas, to inform policy and practice.
 - g. **Two-way collaborative support for Health Protection teams;** information and advice to support and guide health protection work, including surveillance and case management

- h. **Link with other partners**, in particular Public Health Wales' microbiology services and environmental health officers in local authorities, to support ongoing relevant service developments related diagnostics, laboratory surveillance and control of communicable diseases in collaboration with other organisations.
 - i. **Response to new public health threats** including emerging infections.
- 53. As at January 2020, the **Health intelligence Division** was a part of the Knowledge Directorate. The aim of the division was to improve the health and well-being of the people of Wales, and reduce inequalities, by providing and promoting the best available public health intelligence in a manner to inspire, inform and maximise the impact of public health action in Wales.
- 54. The division combined specialist public health practice and expert health intelligence skills in the use and interpretation of data and evidence. It did not have a specific role in relation to emergency preparedness, resilience and response. However, as with other teams across Public Health Wales, the skills of the team could be called on as part of any emergency or cross-organisational response.
- 55. The division included:
 - a. The Public Health Wales Observatory, providing public health intelligence from many sources
 - b. Specialist intelligence units, comprising expert teams collecting, collating, analysing, interpreting and disseminating intelligence on cancers, congenital anomalies, child measurement and child death.
- 56. The division produced a wide range of outputs, including official statistics, and was responsible for statutory functions relating to cancer incidence, mortality and survival and the prevalence of congenital anomalies. A Health Intelligence Liaison Group informed the work plan development, which contributed to the organisation's strategic priorities and annual plans. The division came together with others focusing on intelligence, such as the Communicable Disease Surveillance Centre, for professional development internally as well as collaborating with a broader coalition across agencies, through the Population Health Intelligence Network (PHINet).
- 57. The division also sponsored external information resources including:

- a. All Wales Injury Surveillance System (AWISS) based in Swansea University
 - b. Welsh Paediatric Surveillance Unit (WPSU), Cardiff and Vale.
58. As at January 2020, the **Communications Team** within our Operations and Finance Directorate had responsibility for leading and coordinating the Public Health Wales communications response to any public health emergency incident.
59. Mechanisms for engagement with multi agency groups included, where appropriate, a Strategic Coordinating Group Media Cell, engagement with the Welsh Government, and with Local Resilience Fora via the Warning and Informing network.
60. Under Enhanced Response Level Arrangements, a Communications Lead is a core attendee of the Silver Group. Communications may also be expected to contribute to a Strategic Coordinating Group (SCG), or attend Strategic (Gold), Tactical (Silver), Operational (Bronze) groups, or provide representation at the Emergency Coordination Centre for Wales (ECC(W)).
61. In discharging the organisation's duties under the Civil Contingencies Act 2004, Public Health Wales has a longstanding role in developing and communicating public health messaging relating to emergencies, including communicable disease.
62. In the context of emergencies, any messaging and communications approach is agreed jointly between the organisations involved in multi-agency planning and response through local resilience fora (planning) and Strategic Coordination Groups (response). This would include the Welsh Government where appropriate.
63. Specifically in relation to communicable disease prevention and control, as set out in the current Communicable Disease Outbreak Plan for Wales dated 26 July 2022 **[Exhibit 10 - INQ000089557]**, Public Health Wales has a longstanding role in developing and communicating public health messaging relating to outbreaks and incidents of communicable disease. The messaging and communications approach are agreed jointly between the organisations involved in a multi-agency Incident Management Team or Outbreak Control Team.
64. The Communications Team staff also regularly engage in training and preparedness exercises, including participation in Control of Major Accident Hazards (COMAH) exercises with partners in the emergency services. In the year leading up to January

2020, members of the Communications Team took part in Silver Group / Tactical Incident Manager training which was held on a monthly basis. This was to ensure that all members of the Team, Band 6 and above, were trained and exercised in their role within incident management.

65. As at January 2020, during office hours the **Health Protection Team** structure included the AWARe (All Wales Acute Response) team, that served to provide an immediate response to health protection issues. The AWARe team at that time was staffed with a duty consultant (either Consultant in Communicable Disease Control (CCDC) or Consultant in Health Protection (CHP)), a Co-ordinator (a Senior Health Protection Nurse or Practitioner), a pool of Health Protection Nurses/Practitioners, and a pool of administrative staff including Notification Officers that are the first point of contact for the service.
66. Staff not rostered on the AWARe team for any given day will have been working on other activities, but available for surge should this need to be prioritised.
67. As at January 2020, the **on-call service** was covered as follows:
 - a. Between 5pm-10pm (on weekdays) and 9am-10pm (weekends), the first point of contact was a Specialist Registrar, with a second tier staffed by a public health consultant (drawn from the wider organisation).
 - b. Between 10pm-9am the first point of contact was a public health consultant (drawn from the wider organisation).
68. At all times there was a specialist health protection consultant (either Consultant in Communicable Disease Control or Consultant in Health Protection) on-call to provide advice and support, and as a point of escalation. Significant issues (e.g. major incidents) would be escalated up to the Executive on-call from the CCDC/CHP.
69. The **Public Health Wales Infection Services Division** within our Health Protection and Screening Services Directorate (formerly Microbiology Division), provides diagnostic, clinical, and public health microbiology and infectious diseases advice both internally and externally to the Welsh Government, NHS Wales and health boards and trusts across Wales.
70. The service also manages and delivers:

- a. Comprehensive laboratory diagnostic services for five of the seven Health Boards in Wales
- b. Clinical Microbiology services for five of the seven Health Boards in Wales
- c. Clinical Microbiology advisory services to all Health Boards in Wales
- d. Clinical Infectious Diseases services to two of the seven Health Boards in Wales
- e. Specialist and reference diagnostic and clinical advisory services
 - i. Toxoplasma Reference Unit (Wales and England)
 - ii. Cryptosporidium Reference Unit (Wales and England)
 - iii. Anaerobe Reference Unit (UK)
 - iv. Specialist Antimicrobial Chemotherapy Unit (Wales)
 - v. Mycology Reference Unit (Wales)
 - vi. Welsh Specialist Virology Centre (Wales)
 - vii. Welsh Centre for Mycobacteriology (Wales and South West England).
 - viii. Food, Water and Environmental diagnostic and advisory services across Wales.

71. The **Public Health Wales Health Protection Division** encompasses several teams responsible for the following activities:

- a. The Communicable Disease Surveillance Centre (CDSC) [see paragraphs 45 – 49 above] provides the surveillance function for communicable disease.
- b. The Vaccine Preventable Disease Programme (VPDP), part of the CDSC, provides systems leadership and support for vaccination programmes in Wales. This includes support to health boards to improve vaccine uptake, target inequalities in vaccination, and production of a range of resources to support this activity.
- c. The All-Wales Acute Response (AWARe) team [see paragraphs 62 – 65 above] provide the first-line response to notifications of infectious disease, giving advice to health professionals and initiating immediate health protection action. The team works in partnership with a range of agencies including local authorities, health boards, and Welsh Government. Where cases or

incidents/outbreaks require extended health protection response, these will be managed by the health protection team on a regional basis.

72. The role of Public Health Wales in terms of undertaking and commissioning research includes the following:

- a. Working to deliver our Research strategy (2018, currently under review)
- b. Carrying out research aligned with strategic priorities
- c. Commissioning research on public health matters
- d. Leading, creating and supporting collaborative public health research with the Welsh Government, academia, the third sector and other health organisations, seeking external funding where appropriate
- e. Supported by Welsh Government funding, the Public Health Wales Research and Development (R and D) Office provides a clear pathway for external partners to engage with us in research
- f. Influencing the wider public health research agenda through strategic representation on the Welsh Government Research Directors Group and the National Institute for Health and Care Research Public Health Prioritisation panel.
- g. Research delivered as part of our designation as a World Health Organization Collaborating Centre on Investment for Health and Well-being
- h. Leading and working with academics and other partners to deliver research aligned to strategic priorities; examples include
 - i. Having a strategic contract with Swansea University's SAIL Databank
 - ii. Being a key partner in the Networked Data Lab, created by the Health Foundation, which brings together analytical teams from across the country to develop a deeper understanding of the factors affecting people's health in the UK

- iii. Collaboration in the National Centre for Population Health and Wellbeing Research, across Swansea, Cardiff and Bangor Universities
- iv. Strong links with the Schools Health Research Network, and Public Health Improvement Research Network within the Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), Cardiff University
- v. Developments in genomics and microbiology with collaboration with Cardiff University
- vi. Research within our public health laboratories including Cryptosporidium, Toxoplasma, Mycology Reference Units, UK Anaerobe Reference Unit, Toxoplasma Reference Unit, Pathogen Genomic Unit
- vii. Laboratory functions which support clinical research studies e.g. supporting testing for T-cell therapies for myelomas (CARTITUDE study)
- viii. An infrastructure which supports a Once for Wales approach to vaccine research, implemented in response to the Covid-19 pandemic
- ix. Public Health Collaborating Unit, established in 2016 in collaboration with Bangor University, to support and facilitate working with and access to academic public health assets.

73. **In terms of the role of Public Health Wales and its responsibility for information about the health of the people of Wales;** Public Health Wales collects data through a range of programmes, including the:

- a. Welsh Cancer Intelligence and Surveillance Unit (cancer registry)
- b. Child Measurement Programme (measurement of children in schools)
- c. Congenital Anomaly Register and Information Service
- d. Screening Programmes for Wales (antenatal, newborn bloodspot, newborn hearing, cervical, breast, bowel and abdominal aortic aneurism screening).

74. We are recognised as a producer of official statistics by the UK Statistics Authority and produce statistics which comply with the Code of Practice for Statistics.
75. Our most recent statistical publications, which present and analyse the latest data, include:
- a. Life expectancy and healthy life expectancy 2018-2020.
 - b. Cancer incidence in Wales, 2002-2019.
 - c. Cancer survival in Wales, 2002-2019.
 - d. Cancer mortality in Wales, 2002-2021.
 - e. Child Measurement Programme (CMP) annual report (2022).
 - f. Congenital Anomaly Register and Information Service (CARIS) annual report.
 - g. Screening Programmes Annual Statistical Reports.
 - h. Covid-19 weekly surveillance and epidemiological summary.
76. Public Health Wales also carries out analysis and surveillance to support the health system, for example, ad hoc analysis for health boards, or analysis to support the Welsh Government's health strategies such as the Tobacco Control delivery Plan.

Pre-Pandemic Funding

77. Public Health Wales was established in shadow form from the 1 August 2009 and became fully operational from 1 October 2009. The income for the financial year 2009-2010 was £41.553m, representing the organisation's first six months. The total income has increased steadily from £81.842 in 2010-2011 to £152.911 in 2019-2020, with a large increase in 2020-2021 to £218.284m, reflecting the impact of the Covid-19 pandemic. Some of the significant increases in the organisation's core allocation from the Welsh Government since its establishment include:
- a. the transfer of the National Leadership and Innovation Agency for Healthcare in 2013-2014

- b. the transfer of the diabetic eye screening service from Cardiff and Vale University Health Board in 2016-2017.
 - c. additional funding to support the delivery of 'A Healthier Wales' in 2019-20
 - d. additional funding for the strengthening of the National Health Protection Service in 2019-2020 and during 2020-21 (see below)
 - e. Annual inflationary uplifts for pay and prices
 - f. Pay award funding.
78. In February 2019, Welsh Government confirmed additional funding focused around strengthening the National Health Protection Service, including £1m capital funding in 2018-19 to directly support the automation of the laboratory services across Wales and £0.6m minimum revenue funding in 2019-20 for the continued development of the Pathogen Genomics Unit. In September 2019, Welsh Government provided additional funding to Public Health Wales to strengthen the National Health Protection Service. This funding totalled £1.043m in 2019/20 and was focused around specialist health protection services.
79. The organisation has two main sources of funding; Welsh Government and other NHS Wales organisations for the provision of services delivered by us.
80. In respect of budgets allocated to emergency preparedness resilience and response functions, in 2014-2015, £387k was allocated to the Trust Communications function, this increased to £884k in 2020-2021, for CDSC in 2014-2015 the budget was £1.179m which increased to £1.626m in 2020-2021, and for Health Protection in 2014-2015 the budget was £2.076m in 2014-2015 and in 2020-2021 this had increased to £2.909m.
81. In 2020/2021, Public Health Wales also received £47.118m of Welsh Government Covid-19 funding. Details of additional funding made available by the Welsh Government for Public Health Wales to respond to the pandemic can be found in the evidence submitted by Public Health Wales for Module 2B.

The Role of Public Health Wales in Pandemic Planning

82. As of January 2020, the duties and responsibilities of Public Health Wales as a Category 1 Responder under the Civil Contingencies Act 2004 (CCA), with regard to whole system emergencies, were detailed on page 10 of the Public Health Wales Emergency Response Plan (Version 2.0) approved by the Public Health Wales Board on the 27 September 2018 **[Exhibit 11 - INQ000089558]**. This is the plan that was in place at the start of the proposed date range. These duties and responsibilities are to:
- a. Assess the impact on population health to inform the multi-agency response.
 - b. Liaise with stakeholders to gather detailed information on the type of incident.
 - c. Liaise with other expert agencies, as appropriate, to ensure the provision of proportionate and timely evidence-based advice and support to partners.
 - d. Recommend measures to protect public health and mitigate the effects of an incident.
 - e. Interpret and share information and advice with health services and other partners.
 - f. Collate information obtained from different sources into a coherent, meaningful and usable format for different audiences.
 - g. Contribute to a Strategic Coordinating Group (SCG).
 - h. Attend Strategic (Gold), Tactical (Silver), Operational (Bronze) groups as required.
 - i. Provide representation at the Emergency Coordination Centre Wales (ECCW).
 - j. Contribute to a range of multi-agency partnerships such as the Scientific and Technical Advice Cell (STAC), Air Quality Cell (AQC) and Media cell.
 - k. Advise on the effective communications of public health risks.
 - l. Analyse and evaluate the response proposed by other agencies in terms of the likely impact on public health.
 - m. Facilitate epidemiological follow-up of affected populations and communities as necessary.

- n. Convene and chair (or be a core member of) an Outbreak Control Team in response to a significant infectious disease incident.
 - o. Provide an integrated approach to the protection of public health in Wales supporting partner agencies in the provision of scientific and technical advice within the following specialist areas.
 - i. Infectious disease
 - ii. Outbreak surveillance
 - iii. Chemical hazards
 - iv. Biological hazards
 - v. Radiation hazards.
83. The above roles and responsibilities of Public Health Wales in response to an emergency are shared with Local Resilience Forums to inform multi-agency emergency response plans.
84. Public Health Wales discharged its civil protection duties under the Act in the following ways:
85. ***Risk assessment:*** Public Health Wales engages with Local Resilience Forum Risk Groups in the development of the community risk register and assessment of risks detailed within the National Security Risk Assessment. The Emergency Planning and Business Continuity Team also provides representation at the Wales Risk Group. Between January 2018 and November 2020, this group was chaired by Public Health Wales. The Wales Risk Group provides a forum for the Chairs of the Local Resilience Forum (LRF) Risk Groups, Welsh Government and Cabinet Office to consider: the National Risk Assessment, emerging risk issues and gaps in preparedness, consistent approaches to risk assessment amongst the four LRFs in Wales and sharing good practice. As the chairing organisation, Public Health Wales was instrumental in supporting the pan-Wales European Union transition (Brexit) Risk assessment in 2018. The Emergency Planning and Business Continuity Team (as members of the Wales Risk Group) supported the development of the risk assessment for upcoming winter

pressures and risks in the context of Covid-19, Brexit and the National Security Risk Assessment in 2021.

86. **Emergency planning:** When Public Health Wales was established in 2009 it inherited an Emergency Response Plan from the National Public Health Service for Wales. Before the pandemic, updated plans were published in 2011 [Exhibit 12 - INQ000089559], 2012 [Exhibit 13 - INQ000089560], 2014 [Exhibit 14 - INQ000089561], 2016 [Exhibit 15 - INQ000089562] and 2018 [Exhibit 11 - INQ000089558 above]; a further update was published in 2022. Emergency Response Plans were reviewed annually as required.
87. The Emergency Response Plan Public Health Wales had at the start of the pandemic had been approved by the Board in September 2018 [Exhibit 11 - INQ000089558 above]. The *Public Health Wales Emergency Response Plan* provides the overarching framework for managing emergencies involving the organisation and includes details of the command-and-control arrangements. The plan is supported by a suite of documents including the: *Emergency Response Handbook* [Exhibit 16 - INQ000089563], *Emergency Response Telephone Directory* [Exhibit 17 - INQ000089564], *Terms of Reference for Gold and Silver Response Groups* [Exhibit 18 - INQ000089565, Exhibit 18a - INQ000089566], and *Silver Group Concept of Operations* [Exhibit 19 - INQ000089567]. All documents are held, and version controlled, by the Emergency Planning Lead and made available to all staff on the Emergency Planning and Business Continuity SharePoint Site. Between 2018 and into the early phases of the pandemic emergency planning events and training were organised to increase the number of trained staff that would work internally and with external partners in an emergency.
88. In line with best practice, Public Health Wales aims to review its *Emergency Response Plan* at least yearly. When the 2018 version was agreed, the key change related to response levels. Prior to 2018 the plan included five response levels and the revised 2018 plan reduced these to three. The three response levels were chosen in the knowledge that Public Health England had moved to a similar model and to provide greater clarity to the determination of the actual or foreseeable impact of an emergency or incident on the organisation and the need to establish command-and-control arrangements.
89. **Business continuity management (BCM):** In 2016, Public Health Wales appointed a Business Continuity Consultant to review the BCM arrangements in place in Public

Health Wales. The outcome was a revised BCM system in the organisation that was approved in 2017. In January 2018, executive responsibility for BCM transferred from the Planning and Performance Division of the Directorate of Finance and Operations to the Executive Director of Public Health Services, creating a combined Emergency Planning and Business Continuity function under one manager.

90. A joint Emergency planning and business continuity group was established in 2018, with representation from across the organisation's directorates. The group was chaired by the Executive Director of Public Health Services and reported to the Executive Team.
91. In advance of Brexit, the Emergency Planning and Business Continuity Team conducted an impact assessment on the delivery of Public Health Wales' functions following the UK leaving the European Union. Public Health Wales used the Cabinet Office Reasonable Worst Case Scenarios (RWCS) to inform our internal impact assessment. These identified a number of key issues that may impact on service delivery, including border disruption, continuity of supplies and workforce challenges.
92. Our critical services, screening, health protection and microbiology, identified through our business continuity work, assessed the impact of disruption detailed in the RWCS on staff, premises, resources, suppliers and statutory/reputational issues. The identified critical services were broadened during 2020 to reflect our COVID-19 specific services, for example, information technology to support the response.
93. Our assessment identified that, based on the RWCS, we anticipated limited issues in relation to staff and premises disruption to our critical services as a result of a potential no-deal Brexit.
94. The assessment did highlight key risks in relation to supplies, particularly for our microbiology services. As a result, a number of mitigating actions were put in place.
95. As part of the programme to prepare for potential disruption from Brexit, a series of 60 training and exercise events were delivered across Public Health Wales, and individual services revised their business continuity plans. The programme of activities was informed by the impact assessment so that services judged most at risk of disruption

were prioritised. These included screening, health protection and microbiology services.

96. ***Maintaining public awareness and arrangements to warn, inform and advise the public:*** Health Protection services, working with the Communications Team at Public Health Wales, takes the lead on health protection communications, whether internal (to staff within the organisation) or external (to strategic partners and the public). Communications may be further categorised as reactive and proactive. In an emergency both approaches are taken; Public Health Wales, working with other agencies, will contribute to statements about the incident – statements of fact – and to communications advising and promoting health messages. For example, in an infectious disease outbreak, Public Health Wales will publish information about the outbreak and inform on control measures including reinforcing vaccine advice for vaccine preventable diseases.
97. The approach taken by Public Health Wales also recognises the organisation's responsibilities to multi-agency partners in incident, outbreak and emergency situations. Where there are overlapping interests with strategic partners, whether local authorities, emergency services, or others, communications are developed in consultation with, or, as a minimum, with prior notice to partners on a 'no surprises' basis. In an emergency that requires significant communications' input a cell may be established, for example, a Media Cell under a Strategic Coordinating Group, and a single point of contact identified to ensure consistent public messaging. In such instances, Public Health Wales is often required (see Communicable Disease Outbreak Control Plan for Wales) **[Exhibit 10 - INQ000089557 above]** to act as the 'lead' communication body, for example, during a communicable disease outbreak involving multiple partners.
98. The range of communication channels includes written materials, for example, letters, leaflets and posters, direct (for example, addressing a public meeting) and indirect oral communications including use of mainstream media (TV and Radio) and digital channels (including social media). Recent social media developments are shifting the approach taken by Public Health Wales to "digital first", which results in a more responsive system that provides information, but also recognises that social media can provide Public Health Wales with useful information that can inform the response.

99. Health Protection services also provide a range of professional communications including briefings to make healthcare professionals aware of specific threats of concern, disease surveillance information, and updates on vaccination.
100. **Information sharing (with other local responders to enhance coordination):** This is led by Consultants in Communicable Disease Control, Consultants in Health Protection and the Emergency Planning Team who provide representation to each Local Resilience Forum (LRF) in Wales (and appropriate subgroups) as well as national fora. The Emergency Planning and Business Continuity Team also provides representation on NHS Wales Groups including the Emergency Planning Advisory Group, Mass Casualty Group, Prehospital Major Incident Partnership as well as the NHS Wales Training and Exercise Group. On behalf of the Welsh Government Emergency Planning Advisor, the Emergency Planning and Business Continuity Team established and continue to provide support to the NHS Wales Lessons Management System, ensuring lessons identified are shared. The Executive Lead for Emergency Planning at Public Health Wales attends the Wales Resilience Forum, chaired by the First Minister.
101. **Cooperation with local responders:** Emergency planning and response is dependent on collaboration between responders and this work is led by the LRFs who develop work plans to improve preparedness for identified risks, driven by local risk assessments. Much of the work of the Emergency Planning and Business Continuity Team is steered by LRFs. Public Health Wales provides representation to each LRF in Wales. The Emergency Planning and Business Continuity Team also provide representation to pan-Wales planning groups including the Wales Risk Group and the Wales Learning and Development Group. Between January 2018 and November 2020, the Chair of the Wales Risk Group was the Emergency Planning and Business Continuity Manager in Public Health Wales.

Key Roles and Responsibilities with regard to emergency preparedness, resilience and response (EPRR)

102. The key roles and responsibilities of Public Health Wales are set out in three documents: *Public Health Wales Emergency Response Plan* Version 2.0 September 2018 [Exhibit 11 - INQ000089558 above] (now updated to Version 2a February 2022); *Public Health Wales' Emergency Response Handbook: A guide for Public Health Wales responders* Version 1.0 2019 [Exhibit 16 - INQ000089563 above]; and

the *Incident Co-ordination Centre Concept of Operations* Version 1.0 July 2019 [Exhibit 20 - INQ000089569].

103. The responsibilities of Public Health Wales in responding to a major incident or emergency occurring in, or affecting the NHS/health services in Wales, are set out in the *NHS Wales Emergency Planning Core Guidance* [Exhibit 21 - INQ000089570]. Where the emergency affects the whole of Wales the *Pan Wales Response Plan dated 2019* [Exhibit 22 - INQ000089571] takes effect. In response to a major infectious disease emergency the generic arrangements are set out in the *Wales Framework for Managing Major Infectious Disease Emergencies* [Exhibit 23 - INQ000089572] and specific details for pandemic influenza in the *Wales Health and Social Care Influenza Pandemic Preparedness and Response Guidance* [Exhibit 24 - INQ000089573].
104. Emergency planning leads from all sectors and agencies in Wales input to the development of all four documents, but they are published in the name of the Welsh Government. Public Health Wales contributed specifically to the public health elements of these plans. Public Health Wales takes the lead in developing *The Communicable Disease Outbreak Plan for Wales* [Exhibit 10 - INQ000089557 above], collaborating closely with Welsh Government, health board Directors of Public Health (DPHs), NHS emergency planning leads and Directors of Public Protection in local authorities in Wales. This plan is published in the name of all four bodies and is hosted on the Public Health Wales website.
105. Most outbreaks of infectious disease occur locally. The relevant local authority and the Health Protection and Microbiology Services in Public Health Wales (or in those health board areas in Wales that manage their own microbiology services these will be expected to liaise with Public Health Wales) will jointly consider the facts available and make an initial assessment whether or not to activate *The Communicable Disease Outbreak Plan for Wales*. The decision to declare an outbreak may be made jointly by the three parties in conjunction with the Executive Director of Public Health in the relevant health board, or by any one of the parties. If the decision is to declare an outbreak, then an Outbreak Control Team (OCT) meeting is called. The executive lead at Public Health Wales (or their deputy) would expect to be informed if an OCT meeting is called.
106. The core members of an OCT include a Consultant in Communicable Disease Control or Consultant in Health Protection (from Public Health Wales), the health board Clinical Lead for Microbiology (usually from Public Health Wales), the Director of Public

Protection and the Lead Officer for Communicable Disease in the relevant local authority, and the Executive Director of Public Health in the relevant health board. Co-opted members, as necessary, may be drawn from a wide range of other agencies and include other staff from Public Health Wales, for example, a Communications Officer.

107. Where the threat from an infectious disease arises outside Wales, it is expected that the Health Protection and Microbiology Services in Public Health Wales will be informed by their counterparts in the other countries in the UK. A bilateral, trilateral or UK-level Incident Management Team (IMT) may be established to exchange and interpret information, agree measures to protect public health (though the application of these measures may be limited to specific jurisdictions) and agree the information and advice that will be shared with health and other partners. The executive lead at Public Health Wales (or their deputy) would expect to be informed and Public Health Wales and Welsh Government would expect to take part in the IMT. Sub-groups of the IMT may be set up to undertake more detailed assessment of the impact on population health and to inform a multi-agency response.
108. Specifically in relation to a pandemic threat, that is, a threat from an infectious disease that is global in extent, a process set out in the *International Health Regulations (2005)* applies. United Nation member states are required to designate a National Focal Point (NFP) that will be alerted to diseases that have been notified to the WHO in accordance with the regulations. The NFP for the UK was Public Health England and is now the UK Health Security Agency. Depending on the information received, the UK NFP informs the other three public health agencies across the UK. On receipt of this information, a senior public health specialist in health protection in Public Health Wales will determine who else should be informed. Again, the executive lead at Public Health Wales (or their deputy) would expect to be informed. Public Health Wales may convene an internal meeting to discuss the alert and agree what, if any, actions are required at the time.
109. From the 1 September 2021 (i.e., post EU Transition) new Regulations came into force in the UK (Health Security (EU Exit) Regulations 2021). Post EU Transition, PHE (now UKHSA) remains recognised as the national focal point (NFP) under the International Health Regulations (2005) and acts as the focal point for communications with the European Centre for Disease Control and Prevention (ECDC), through a new Memorandum of Understanding. This still requires UKHSA to share information with the other countries in the UK on new and emerging threats. These Regulations contain

specific sections relating to 'Procedures for addressing serious cross-border health threats' (Part 3) which require the 4 nations of the UK to discharge actions in relation to: Preparedness and response planning, Alert notification, Coordination of response, Information about other serious cross-border health threats and Arrangements with the European Union under the Health Security chapter of the UK/EU Trade and Cooperation Agreement (TCA).

110. What then happens depends on the threat. Assuming the threat is outside the UK and is not expected to have an imminent impact on UK residents, the decision may be limited to informing key stakeholders. For example, public health and other health professionals in health boards and public health officials in the Welsh Government (though the Office of the Chief Medical Officer (CMO) for Wales is likely to have received notice directly of the alert). Dissemination of information, with any relevant advice or request for action, may be through an emailed briefing note prepared by Public Health Wales, after liaising with the CMO for Wales' Office, or by direct communication from the CMO's Office in a Public Health Link communication with input from Public Health Wales.
111. In the case of Covid-19, PHE convened a UK-wide meeting of public health agencies on the 7 January 2020, shortly after receiving notification from the World Health Organization (WHO) of a cluster of pneumonia-like cases in China. Public Health Wales then disseminated a briefing note to the NHS in Wales on the 8 January 2020 **[Exhibit 25 - INQ000089574]**.
112. In most infectious disease outbreaks, the tactical responses set out in *The Communicable Disease Outbreak Plan for Wales* **[Exhibit 10 - INQ000089557 above]** will be sufficient with enhanced representation on the Outbreak Control Team (OCT) as necessary. The OCT will take the lead in determining the subsequent actions including obtaining further information from relevant stakeholders, liaising with other expert agencies, and recommending measures to protect public health. The OCT will also interpret and share information and provide scientific and technical advice in the specialist areas of infectious disease and outbreak surveillance.
113. In response to significant health-related emergencies including infectious disease outbreaks, multi-agency command and control (civil contingency) arrangements may also be activated. This is likely to occur where the nature and scale of the infectious disease overwhelms public services, or where it causes wider strategic issues or risks that may have a serious impact on the public. Such scenarios were referenced in the

first consolidated Communicable Disease Outbreak Control Plan for Wales, published in 2014 [Exhibit 26 - INQ000089575]. This is the plan that was in place as at January 2020.

114. There are several scenarios where this may arise including a widespread national emergency arising from a known high-consequence infectious disease (for example, Ebola virus disease) or the emergence of a new infectious disease (for example, from a novel virus like SARS-CoV-2 that the population has not been exposed to before).
115. In June 2020, the Welsh Government asked Public Health Wales to update *The Communicable Disease Outbreak Plan for Wales*, and an additional section (Part 7) was included to clarify the response arrangements when both an OCT and a Strategic Coordinating Group (SCG) may need to be or have been activated. The updated plan was published in July 2020.
116. Depending on the nature of the emergency, when a strategic coordinating group (SCG) is set up, Public Health Wales may be asked to attend. The public health representative at the SCG will be expected to provide an assessment of the impact on population health to inform the multi-agency response, as well as contributing to the partnership's strategic decision making. They will also advise on the effective communication of public health risks and analyse and evaluate the response proposed by other agencies in terms of the likely impact on public health. The representative will be supported by specialist resources in Public Health Wales (health protection, microbiology and communications). A Public Health Wales representative may also be asked to attend tactical coordinating groups (TCG) and Operational groups as required.
117. In the situation when all four SCGs are meeting and the focus of the emergency is a single infectious disease threat, for example Influenza pandemic, Ebola virus disease or Covid-19, it may not be feasible for Public Health Wales representatives to attend all four SCGs. During the Ebola outbreak a mechanism was agreed with all four SCGs whereby a single Public Health SCG Support Group was set up. This worked well and support for this approach, on an exceptional basis, was subsequently agreed between Public Health Wales and the Health Resilience Team in the Welsh Government. This learning informed the decision by Public Health Wales to set up the Public Health Strategic Co-ordinating Support Group early on during the Covid-19 pandemic.
118. During an emergency, the Welsh Government may activate the Emergency Co-ordination Centre (Wales) to link with the SCGs and the UK central government

resilience arrangements facilitated by the Cabinet Office. The role of the ECC(W) is primarily one of information gathering and informing Ministers and the UK Government of the implications of emergencies in Wales. When activated, Public Health Wales will be expected to provide representation at ECC(W) upon request, usually through a senior health protection consultant.

119. Other arrangements sometimes activated in emergencies include a Scientific and Technical Advice Cell (STAC) and an Air Quality Cell (AQC). A STAC brings together scientific and technical experts under the strategic direction of the SCG. In most cases the role of the STAC Chair is filled by Public Health Wales where there is no clear alternative. Updated guidance on the Provision of Scientific and Technical Advice in Wales was published by the Welsh Government (Wales Resilience Partnership) in November 2019. This points out that, for most incidents, scientific advice is best provided through existing channels and agencies who routinely attend the SCG, and a STAC should only be set up where there is a collective expectation that it can add value to the response.
120. Public Health Wales and PHE (now UK Health Security Agency), in conjunction with Natural Resources Wales (NRW), can request that an AQC is convened. A formal SCG or TCG need not be in place for the AQC to convene. An AQC will only be established for a fire, explosion or chemical release that is affecting air quality and interprets real-time air quality monitoring data, reviews modelling strategies, interprets modelling outputs, shares interpreted air quality information and responds to questions from incident response partners. SCGs may also set up a Media Cell to ensure external agencies are appropriately alerted, briefed and communication strategies are consistent. When an emergency involves Public Health Wales a member of the Communications Team will liaise with the Media Cell.

Key Areas of Pandemic Planning, Preparedness and Response

121. Public Health Wales, as a Category 1 responder, shared most responsibilities with partners as part of membership of the four Local Resilience Fora in Wales and respective subgroups. Public Health Wales has had a lead role in pandemic planning and preparedness in the South Wales and Gwent areas as Chair of the Infectious Disease Groups which were established as subgroups of the Local Resilience Fora. The Chair provided by Public Health Wales, was a Consultant in Communicable Disease / Consultant in Health Protection. Public Health Wales has had a supporting role in pandemic planning and preparedness through membership of the Local

Resilience Fora (LRF) Health Groups in the North Wales and Dyfed Powys Local Resilience Fora as infectious disease planning was a standing agenda item. The representative attending for this item was a Consultant in Communicable Disease / Consultant in Health Protection.

122. In considering key areas of pandemic planning, preparedness and response, Public Health Wales has exclusive competency in the provision of Welsh epidemiology and surveillance data to the Welsh Government, all partners and the public and also in the running of the Pathogen Genomics services e.g. in support of response to Variants and Mutations of Concern. The organisation also ran and delivered the majority of domestic microbiology/virology testing laboratories and testing capacity across Wales and exclusively gave specialist advice on testing to the Welsh Government.
123. Public Health Wales had a leading role in relation to the overall Covid-19 surveillance, with additional surveillance information coming from the Office for National Statistics. Public Health Wales Microbiology Services formed the basis for testing (including genomics) across Wales. The organisation also had a leading role in the development of the Test, Trace, Protect (TTP) function established by the Welsh Government to manage Covid-19 cases across Wales, as well as participating in specialist outbreak and incident response groups. The TTP function was established by Welsh Government following the production of the National Health Protection Response Plan by Public Health Wales in May 2020. This followed a commission from the Chief Medical Officer for Wales.
124. The organisation also has a leading role in the communication of public health science-based advice and data to partners and the public.
125. The organisation has also continuously supported the Emergency Planning Advisory Group chaired by the Welsh Government Health Emergency Planning Advisor. In particular, the Emergency Planning and Business Continuity Team has developed and maintained the NHS Wales Lessons Identified Register under the direction of this group.
126. During the pandemic response, Public Health Wales had a significant role in supporting the local Test, Trace, Protect services as well as the Local Incident Management Teams across Wales.

127. All Category One and Two Responders have statutory responsibilities under the Civil Contingences Act (CCA). Organisations will discharge them individually and through the Local Resilience Fora.
128. The Category One responders with whom Public Health Wales has shared competence and responsibility are the Police Services, British Transport Police, Fire Services, the Ambulance Service, Local Authorities, UKHSA, Natural Resources Wales, and the seven Health Boards.
129. The Category Two responders that Public Health Wales engages with through the Local Resilience Fora are the utility companies (water, sewerage, gas, electricity), telecommunications service providers, railway operators, airport operators, harbour authorities, highways authorities and the Health and Safety Executive.
130. The work of LRFs across Wales is driven primarily by nationally identified risks (including pandemics) which are locally assessed.
131. A range of risk-specific subgroups are long-established across LRF areas (which include infectious disease and health), and Public Health Wales provided, and continues to provide, representation across Wales through the Consultants in Communicable Disease Control / Consultants in Health Protection as well as the Emergency Planning and Business Continuity Team.
132. The multi-agency representatives work collaboratively to achieve their aims, and report through the governance structures in each of the local resilience fora.
133. Emergency Planning is a 'multi-agency team effort' involving collaboration with all partners in the LRFs who work to develop plans, train and exercise to improve preparedness.
134. The Public Health Wales Emergency Planning and Business Continuity Team further provided representation to other pan-Wales planning groups including the Wales Risk Group and the Wales Learning and Development Group.

Risk Assessment and Forecasting

135. As a Category 1 responder in Wales, Public Health Wales' approach to civil contingency risk assessment and forecasting is discharged by being a core member of the Wales Risk Group and contributing to the assessment of risks detailed within

the National Security Risk Assessment. The Emergency Planning and Business Continuity Team provides representation at the Wales Risk Group.

136. Between January 2018 and November 2020, the Wales Risk group was chaired by Public Health Wales. As the chairing organisation, Public Health Wales was instrumental in supporting the pan-Wales European Union transition (Brexit) risk assessment in 2018. The Emergency Planning and Business Continuity Team (as members of the Wales Risk Group) supported the development of the risk assessment for upcoming winter pressures and risks in the context of Covid-19, Brexit and the National Security Risk Assessment in 2021. In addition, Public Health Wales engages with Local Resilience Forum Risk Groups in the development of the community risk registers.
137. During the period from 2009 to 2012, the Health Protection Agency was the designated UK National Focal Point, then from April 2012 to 2020, Public Health England was designated by the UK Government as the UK National Focal Point for the International Health Regulations (IHR) 2005. The IHR are an international legal instrument agreed on by 196 countries that aims to 'help the international community, prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide'. During this period, Public Health England was also the focal point for the UK's communications with the European Union.
138. Post EU transition, the Health Security (EU Exit) Regulations 2021 have established a legislative regime that ensures that the four Nations continue to co-ordinate in their approach to the surveillance, prevention and control of serious cross border threats to health, and the UK can meet the health security obligations under the Trade and Cooperation Agreement. UKHSA continues to be the UK National Focal designated by the UK Government.
139. During the period 2009 to 2020, Public Health Wales informed its approach to risk assessment and forecasting by undertaking routine surveillance of communicable disease and engaging with PHE (now UKHSA) as the National Focal Point.
140. Examples of surveillance included:
 - a. In Wales; using routine disease surveillance of e.g. notifiable diseases such as measles, and notifiable organisms such as *Listeria*.

- b. In the UK; by engaging with the National Focal Point and being part of, and contributing to, surveillance such as Legionella and for gastrointestinal pathogens
 - c. Across Europe; by engaging with the National Focal Point and being part of, and contributing to, the ECDC surveillance programme (The European Surveillance System, TESSY) for certain infections such as influenza
 - d. Internationally; by engaging with the National Focal Point and reporting cases and incidents as required under the International Health Regulations (IHR).
141. As at 21 January 2020, there were no Wales specific forecasts issued by the Welsh Government as the approach of the UK was to produce UK wide forecasts.
142. From a CDSC surveillance perspective, informed by previous pandemic exercises, there was a significant (although difficult to quantify) risk of an influenza pandemic, likely resulting from zoonotic reassortment as had happened in 2009 with Swine Flu. The impacts of such a pandemic were known to be severe.
143. There was also a significant risk of a coronavirus outbreak due to MERS-CoV, given the experience of imported cases to the UK, and the outbreak in the Republic of Korea in 2015 linked to healthcare.
144. Public Health Wales has facilitated and contributed to training for health service and other partners which highlighted these risks. Specifically, on the 19 October 2015, Public Health Wales led a multi-agency exercise in Wales on MERS-COV – Exercise Dromedary. The exercise focussed on the response to a case of MERS-COV with community and hospital contacts. The event was attended by 60 staff from Public Health Wales and external partners. The key lessons from the exercise centred on training more senior managers for the principal roles and to update the emergency response plan. The first of these has been a continuous feature of the approach taken by Public Health Wales to emergency planning. Please see paragraph 243 below.
145. On the 13 September 2019, Public Health Wales, at the request of the Emergency Planning Advisory Group, delivered a multi-agency learning session on High Consequence Infectious Disease (HCIDs), including providing specialist epidemiology information and insight into for example MERS COV, Ebola and Pandemic influenza. This refresher training was attended by 65 individuals from health boards and the

Welsh Ambulance Service and focussed on the use of Personal Protective Equipment for High Consequence Infectious Disease. As part of this training, clinical leaders were further informed of the early management of patients with high consequence infectious diseases, as well as the procurement implications in relation to the revised management of high consequence infectious disease guidance which was awaiting publication. Similar previous training had been delivered in 2014.

Public Health Wales Emergency Planning as at 20 January 2020

146. Public Health Wales had in place a full Emergency Response Plan (Version 2.0) **[Exhibit 11 - INQ000089558 above]**. This had been approved by the Public Health Wales Board on the 27 September 2018. The document sets out the specific arrangements for the Public Health Wales strategic and tactical response to incidents, outbreaks and emergencies by Public Health Wales as set out earlier in this statement.
147. In addition, a Public Health Wales Incident Coordination Centre Concept of Operations had been developed by the Emergency Planning and Business Continuity Team to support the operations of the Public Health Wales Silver Group.
148. After a series of Silver Group training and exercise events, the document was reviewed, updated and re-titled the 'Silver Group Concept of Operations (Version 1.0)' **[Exhibit 19 - INQ000089567 as above]**. This was subsequently approved by the Emergency Planning and Business Continuity Group on the 10 July 2019.
149. The concept of operations outlines the arrangements for the activation and operation of the Public Health Wales Silver Group and Incident Co-ordination Centre in response to, and recovery from, an emergency. It should be read alongside the Public Health Wales Emergency Response Plan (Version 2.0).
150. Business Continuity Planning is a requirement of the organisation as stated in statutory guidance and legislation.
151. On the 29 January 2019, the Business Continuity Incident Management Process (Version 2.0) was published **[Exhibit 27 - INQ000089576]**.
152. The document describes the response and recovery process for the Public Health Wales management of business continuity incidents. It forms part of a suite of corporate business continuity documents, including the: Business Continuity Framework **[Exhibit 28 - INQ000089577]**; Directorate/Divisional business continuity

plans . This plan is to be read in conjunction with the Public Health Wales Emergency Response Plan.

153. The Public Health Wales Emergency Response Telephone Directory **[Exhibit 17 - INQ000089564 above]** provided contact details of trained members of Public Health Wales staff and multi-agency contacts for use in the event of an emergency. The directory is intended for use in conjunction with the Public Health Wales Emergency Response Plan (Version 2.0).
154. The Public Health Wales Emergency Response Handbook **[Exhibit 16 - INQ000089563 above]** was approved by the Emergency Planning and Business Continuity Group on the 10 July 2019.
155. It aims to support decision making in the response to an emergency and is intended for use in conjunction with the Public Health Wales Emergency Response Plan (Version 2.0).
156. The Gold Group Terms of Reference and Standing Agenda **[Exhibit 18 - INQ000089566 above]** were introduced on the 6 December 2019 following the approval by the Emergency Planning and Business Continuity Group.
157. They outline the purpose and roles and responsibilities of the Public Health Wales Gold Group and are intended for use in conjunction with the Public Health Wales Emergency Response Plan (Version 2.0).
158. The Silver Group Terms of Reference and Standing Agenda **[Exhibit 18 - INQ000089566 above]** were developed in January 2020.
159. They outline the purpose and roles and responsibilities of the Public Health Wales Silver Group and are intended for use in conjunction with the Public Health Wales Emergency Response Plan (Version 2.0).
160. The Business Continuity Silver Group Terms of Reference and Agenda **[Exhibit 30 - INQ000089579]** were introduced in January 2020.
161. They outline the role and responsibilities of the Business Continuity Silver Group in the management of a Business Continuity incident at the Tactical level and are intended for use in conjunction with the Public Health Wales Emergency Response Plan (Version 2.0), and the Public Health Wales Business Continuity Framework.

162. In terms of pre-existing emergency plans in place to deal with the occurrence of a high consequence infectious disease; Public Health Wales published Ebola Incident Management Arrangements (as version 01) on the 21 November 2014 **[Exhibit 31 - INQ000089580, Exhibit 31a – INQ000089581, Exhibit 31b – INQ000089582, Exhibit 31c - INQ000089583]**. The document details the arrangements that need to be put in place should an IMT need to convene due to a possible/highly likely/confirmed case of Ebola presenting in Wales. Subsequent document updates led to version 08 being published on the 2 April 2015 **[Exhibit 32 - INQ000089584]**.
163. The document was intended for use in conjunction with the Public Health Wales Emergency Response Plan, the Communicable Disease Outbreak Plan for Wales.
164. In terms of the involvement Public Health Wales had in multi-agency plans, the Executive Director of Public Health Services, and Director of Health Protection, received a revised version of the Wales Framework for Managing Major Infectious Disease Emergencies from the Welsh Government's Health and Social Services Group on the 9 October 2014 **[Exhibit 33 - INQ000089585]**. This this version replaced all previous versions.
165. In June 2020, Public Health Wales led a partnership process to review the Communicable Disease Outbreak Plan for Wales, making amendments and notably adding a new section on engagement with Civil Contingency Structures (Part 7). The Wales Framework was referenced in this review. The final revised version of the Communicable Disease Outbreak plan was submitted to the Welsh Government on the 10 July 2020 .
166. On the 10 July 2020, an email was received from the Welsh Government Health Emergency Planning Adviser, questioning whether, given the revisions to the Communicable Disease Outbreak Control plan, it was an opportune time to withdraw this Wales Framework. On the 17 July 2020, the Welsh Government circulated to all partners a copy of the revised Communicable Disease Outbreak Plan for Wales (July 2020) **[Exhibit 35 - INQ000089586]**, together with the Wales Framework for Managing Major Infectious Disease Emergencies (2014) **[Exhibit 33 - INQ000089585 above]**, and a cover letter from the CMO for Wales **[Exhibit 36 - INQ000089587]**, which referenced both documents. On the 7 August 2020, Public Health Wales sought clarity as to whether the Wales Framework for Managing Major Infectious Disease

Emergencies (2014) had been withdrawn. An email response from Welsh Government officials clearly stated that it had NOT been withdrawn but was awaiting review.

167. In May 2022, Public Health Wales was again asked by the Welsh Government to undertake a further rapid review of the Communicable Disease Outbreak Plan for Wales (July 2020). In completing this work, on the 14 September 2022, Public Health Wales requested clarity from Welsh Government officials as to the status of the Wales Framework for Managing Major Infectious Disease Emergencies and whether it should be referenced in communication. Welsh Government officials responded on the 21 September 2022, confirming that the Framework document should not be included in communications and that it required review, potentially in 2023, alongside a full review of the Communicable Disease Outbreak Control Plan (July 2022).
168. Public Health Wales provided input to the Communicable Disease Outbreak Plan for Wales on several occasions. This is a multiagency plan developed in collaboration between the NHS in Wales, the Welsh Government and the Directors of Public Protection Wales.
169. Prior to 2014, there had been multiple plans in Wales for the investigation and control of communicable disease. All these had contained very similar guidance. Whilst it has been recognised that each individual plan was robust and fit for purpose, the presence of several plans for use in outbreaks had caused confusion as to which plan should be followed. Therefore, at the request of the Welsh Government, a multi-agency working group was convened in 2008 to draw the plans together into one generic template.
170. A model plan 'The Communicable Disease Outbreak Plan for Wales' March 2011 ("The Wales Outbreak Plan"), resulted from that work and was jointly published by Welsh Government and Public Health Wales **[Exhibit 37 - INQ000089588]**. The plan was used as the template for managing all communicable disease outbreaks with public health implications across Wales. It had been developed from the amalgamation of the following plans:
 - a. Plan for handling Major Outbreaks of Food Poisoning (2004)
 - b. The Emergency Framework for health-related incidents and outbreaks in Wales and Herefordshire potentially caused by contaminated drinking water ("Water Framework") (January 2008) (which in turn replaced the older Cryptosporidium plan)

c. Model Plan for the Management of Communicable Disease Outbreaks in Wales (1995 and draft update 2007)

171. This plan was further updated in 2014. The Communicable Disease Outbreak Plan for Wales, April 2014, ('The Wales Outbreak Plan') was published jointly by the Welsh Government, Public Health Wales, NHS Wales, and Directors of Public Protection Wales (DPPW) **[Exhibit 26 - INQ000089575 above]** and was divided into seven parts. Parts 1 and 2 containing details pertinent to all outbreaks. Parts 3 to 7 containing the technical operational detail needed for managing specific issues including if a hospital outbreak has any potentially serious public health implications, outbreaks occurring in prisons, and managing water borne outbreaks. Public Health Wales hosted the plan on its website. This is the plan that was in place as at January 2020.
172. It was noted that there will be rare occasions where an outbreak or incident may develop into an overwhelming communicable disease emergency or there is suspicion of a bioterrorism event. In such a scenario, the Wales Resilience Emergency Planning structures may need to be invoked and the Outbreak Control Team would need to consider escalation to involve the LRF Chair.
173. In June 2020, Public Health Wales was requested by the Welsh Government to lead a multi-agency review of the existing Communicable Disease Outbreak Plan for Wales. This was led by a Public Health Wales Consultant in Communicable Disease and involved engagement with a multi-agency group including representatives from local authorities (Environmental Health), health board Directors of Public Health, LRF Chairs, senior police officers and LRF co-ordinators. The revision of the plan sought, in particular, to clarify the definition of an outbreak and to add a new section (Part 7) on the specific relationship of the plan to and engagement with civil contingency arrangements. The existing section on 'Control of outbreaks of infection in NHS premises' was removed to become a separate Framework. The revised plan was submitted to the Welsh Government on the 23 June 2020. It was approved and formally communicated to partners by the CMO for Wales by letter on the 13 July 2020 **[Exhibit 36 - INQ000089587 above]**.
174. On the 6 April 2022, Public Health Wales was again asked by the Welsh Government to lead a review of the Communicable Disease Outbreak Plan for Wales and to respond by the end of June 2022. Public Health Wales convened a multi-agency task and finish and undertook a rapid review of specific sections of the plan, so as to apply

learning from the pandemic response. A summary written report and draft final versions of the plan were submitted to the Welsh Government initially on the 24 June 2022, presented to the Welsh Government's Covid-19 Transition Group on the 28 June 2022. A final version of the plan was presented to the CMO for Wales' Health Protection Advisory Group on the 6 September 2022 and communicated to all partners, by the Welsh Government using a CMO Public Health Link Communication on 3 October 2022. The main changes related to:

- a. Roles and Responsibilities, where there was an identified need to provide greater clarity of intent / and or interpretation of meaning.
- b. Removal of 'operational' detail and emphasising the plan as a 'Strategic Framework' for response, with links made to relevant supporting information and plans.
- c. Update of any organisational changes.

- 175. The report also identified issues for further consideration to be taken forward during a scheduled full review of the plan in 2023.
- 176. Public Health Wales has contributed to the development of Scientific and Technical Advice Cell (STAC) arrangements in Wales, both in planning and response. The last STAC guidance was published by the Wales Resilience Partnership team on the 6 November 2019 **[Exhibit 38 - INQ000089589]**. Public Health Wales had previously (April 2018) prepared and published a supporting 'interpretation' note **[Exhibit 39 - INQ000089590]**.
- 177. Public Health Wales also had an involvement in the following multiagency initiatives in Wales;
 - a. The Pan-Wales Response Plan (Wales Resilience)
 - b. Emergency planning by the Wales Resilience Forum
 - c. Emergency planning by the 4 Local Resilience Forums
- 178. Details of Public Health Wales' involvement in these initiatives is set out within this statement.
- 179. The Public Health Wales Emergency Response Plan (Version 2.0) **[Exhibit 11 - INQ000089558 above]** is designed to complement those utilised in the multi-agency arena, including the command and control arrangements, thus enabling Public Health

Wales to discharge its responsibilities under the Civil Contingencies Act. For example, if externally a Major Outbreak of Infectious Disease (e.g. Food poisoning) was declared in Wales under the Communicable Disease Outbreak Plan for Wales, the Public Health Wales Emergency Response Plan enables the organisation to internally declare an enhanced or major incident and establish internal command and control arrangements to support the response. This would include the internal management of Public Health Wales resources and also support for wider civil contingency command and control e.g. SCG and/ or Wales Emergency Control Committee (ECCW).

180. Similarly, and consistent with its duty to share information to enhance coordination, Public Health Wales's duties and responsibilities as a Category 1 Responder under the Civil Contingencies Act 2004 (CCA), as stated in the Public Health Wales Emergency Response Plan (Version 2.0), are also shared with Local Resilience Forums and individual partners to inform multi-agency emergency response plans.
181. Public Health Wales is aware of the Chief Medical Officer's guidance: All Wales Critical Care Escalation Guidance for the Management of Large Unplanned Increased in Demand and its updates (first published in 2010 and later revised in 2014, 2016 and 2017).
182. Public Health Wales does not however have responsibility for the provision of critical care services. Whilst aware of this guidance, and its relevance to the Communicable Disease Outbreak Control plan (and Framework for the Control of an Outbreak or Incident of Infection in Acute Healthcare Premises in Wales, March 2022), Public Health Wales plans do not contain specific provision in relation to the guidance and its key actions which instead relate to health boards and Critical Care networks.

Factoring into Plans Specific Existing Health Inequalities and the Specific Risks and Needs Relating to Different Groups of People

183. The Public Health Wales Emergency Response Plan contains specific reference to the organisation's role to give special consideration to those who are made 'vulnerable' as a result of the emergency or who are less able to help themselves in the circumstances of an emergency.
184. For planning purposes, the plan references the Cabinet Office Guidance 'Chapter 5 (Emergency Planning) Revision to Emergency Preparedness' which states that there are broadly three categories that need to be considered:

- a. those who, for whatever reason, have mobility difficulties including people with physical disabilities or a medical condition or otherwise may have physical challenges to their mobility, for example, pregnant women
 - b. those with mental health or learning difficulties
 - c. others who are dependant, such as children.
185. As a public health organisation, the Public Health Wales internal response was also cognisant of inequalities in health, socio economic deprivation and the risks and needs of specific groups. Our main strategic emergency plan is generic in its framework, using the Gold and Incident Management Team and specific sub teams (Bronze) response structures, including named functions / cells (e.g. Vaccination, Enclosed Setting cell) and recognition of named 'lead experts' for key areas including epidemiology, clinical microbiology, vaccination, sampling and laboratory testing, behavioural science, public awareness surveys, and research as well as leads established for specific vulnerable settings arising during the response.
186. It is important to recognise that health inequalities and the risks to specific groups within society vary significantly according to the nature of the emerging threat in question. Accordingly, the emergency planning in place is necessarily generic whereas the response to the threat once known is managed through established processes to ensure these inequalities and risks are appropriately managed with a multiagency approach.

Emergency Planning and Health Inequalities

187. Public Health Wales' internal emergency plan is generic and a dynamic risk assessment is undertaken in relation to the specific threat at the time of any incident. The specific risks and needs of different groups of people are considered in the detail of the actual response. This was the case in Covid-19, for example, with the establishment of the Enclosed Settings Cell by Public Health Wales. Residents of care homes are a vulnerable group in the population and in response to the growing number of incidents related to care homes in Wales and the assessed risks to this section of the population, the Cell was set up at the end of March 2020. This was an innovative response to a dynamically assessed public health need to provide advice and support

to those caring for a vulnerable population. Examples which illustrate approaches prior to 2020 include multi-agency response plans for Vaccination and Immunisation.

188. Immediately prior to the pandemic, Public Health Wales led a multiagency task group to respond to measles infection and vaccination uptake rates (Wales Measles and Rubella Elimination Task Group). A multi-agency action plan was produced that considered equity in MMR vaccination uptake by socioeconomic status and recommended identification of vulnerable groups and targeting with specific interventions. The recommendations on public information also recommended the provision of easy read and multi-language public information.
189. In 2013-2014 Public Health Wales was supporting an all Wales view of the implementation of NICE public health guidance aimed at reducing the differences in uptake in vaccination.
190. As part of the routine flu programme, Public Health Wales had built up over time activities which addressed issues with communication and language. By the 2019-2020 flu season, Public Health Wales supported production of resources in the following formats: audio, British Sign Language, easy read, large print and 18 minority languages.

Suitability and Sufficiency of the Emergency Plans in Place for Public Health Wales and Partner Agencies to deal with a Pandemic such as Covid-19 as at January 2020

191. At the start of 2020, Public Health Wales had a corporate emergency response plan (version 2.1 September 2018) [**Exhibit 11 - INQ000089558 as above**], an established governance structure and work programme for implementing the plan, a suite of updated documents (resources) to support the plan and had trained and exercised over one third of the workforce in the preceding year. In addition, preparations for the EU transition meant that business continuity management across the organisation had been extensively reviewed between August 2018 and the end of 2019. On an impact risk-assessed basis, key functions including health protection and microbiology services had undergone extensive testing of their business continuity plans and made adaptations as necessary. In December 2019, the Welsh Government confirmed an uplift to Public Health Wales' financial allocation to enable further investment to be made in microbiology and health protection services.

192. The plans that Public Health Wales had made, or led the development of, were applied effectively in the response to the Covid-19 pandemic and were adaptable to its evolution, as evidenced by the changes made to the Communicable Disease Outbreak Plan in July 2020 (see paragraph 166 above). In summary, the amendments made to the Communicable Disease Outbreak Control Plan 2020 mainly related to the inclusion of a new Section (Section 7) which describes the protocol to be followed on those occasions where an outbreak or incident may necessitate the activation of civil contingency arrangements.
193. In addition, further clarification was given in relation to:
- a. the definition of ‘an outbreak’
 - b. the role of Health Board Executive Directors of Public Health.
194. While at the start, the new virus was confined to China and the significance of the outbreak in Wuhan was still being assessed by the WHO, before the 21 January 2020, Public Health Wales was mobilising its specialist health protection and microbiology resources, risk assessing, warning and informing strategic partners, and advising the Welsh Government of the concerns. By the 23 January 2020, Public Health Wales was working in an ‘enhanced’ emergency response mode with an Incident Management Team in place. By the end of January 2020, considerable staff mobilisation had commenced. All these actions exemplified the application of tested emergency plans, in a proportionate response, by an organisation that had learned from previous experiences including the co-ordination of the response to the measles outbreak in 2012-2013 and oversight of the catch-up vaccination programme, leadership in Wales of the response to the Ebola outbreak in West Africa in 2014-2015 and the role it had played in support of the NATO Summit in 2014.
195. Other early key actions during the pandemic were extensions of the considerable system leadership role Public Health Wales was already demonstrating before the pandemic. Following investment in a Pathogen Genomics Service before the pandemic, Public Health Wales attained third in the world (after PHE and the US Centre for Disease Control) submission of gene sequences of the new (SARS-CoV-2) virus by the Public Health Wales genomics service. Scientific expertise in the Public Health Wales Cardiff laboratory, which had developed tests in response to past outbreaks, for example, a PCR test for measles in 2013, was also deployed to successfully develop a test for SARS-CoV-2 in February 2020. The established role of

Public Health Wales as a leader in civil contingencies in Wales enabled the organisation, working with the NHS, local authorities and the court services in Wales, to secure agreement to adapted existing regulation (Part 2A Orders) as an alternative to the adoption of new regulation as proposed in England.

196. However, it is the case that at the start of 2020, as became apparent during the first year of the pandemic, the health protection services in Public Health Wales were under-powered and the recruitment to roles identified as necessary and for which funding had been allocated in December 2019, had not yet commenced. In February 2021, the Welsh Government approved further funding that increased health protection staffing by nearly 150% (from 80 staff at the start of 2020 to almost 200 staff by the end of 2021).
197. Similarly, developments in laboratory diagnostic services managed by Public Health Wales had been modest in advance of the pandemic. For example, some investment in molecular testing had commenced in 2017 and been used to good effect in response to the surge in seasonal influenza in 2017-2018. New funding in 2020 led to the development of new facilities (a fully functioning laboratory) and additional equipment in six acute hospitals across Wales, as well as a 40% expansion (over 160 staff) in the microbiology workforce. The Microbiology service had also developed forward strategic plans to develop 'rapid testing' for key pathogens in all acute hospitals to support infection control and this later enabled swift implementation of rapid Covid-19 testing in all acute hospitals across Wales.
198. Prior to January 2020, Public Health Wales had been engaged in work at the request of the Welsh Government in relation to the provision of 'Isolation Room Facilities' across hospitals in Wales. In December 2016, following receipt of a letter from the CMO for Wales to Medical Directors **[Exhibit 40 - INQ000089592]**, an internal briefing was prepared for Public Health Wales **[Exhibit 41 - INQ000089593]** which summarised the current position and outlined issues of public health concern including the incidence of MERS CoV at the time (17 cases south-east Wales) and the risk posed by new emerging infections e.g. SARS.
199. On the 4 April 2017, the Welsh Government asked Public Health Wales to chair an All-Wales task and finish group to review Isolation Room facilities and requirements (national, regional and local). Public Health Wales agreed to chair the group on the 30 May, and on the 5 July 2017, a Public Health Wales CCDC was nominated to chair the group, with support from a senior medical microbiologist. A working group (including

representatives from Public Health Wales (CCDC, Microbiology, IPC) and all seven Health Boards met over the next few months. On the 18 October 2017, the chair of the group submitted a final report of the working group to Welsh Government officials. The report included recommendations on isolation room requirements for all health boards across Wales [Exhibit 42 - INQ000089594].

200. Public Health Wales, on behalf of the Welsh Government, had been leading a programme of work for over five years to support NHS organisations to discharge their responsibilities for infection prevention and control in the NHS in Wales. As described above, Public Health Wales, at the request of Welsh Government, had conducted a review of isolation facilities in the NHS estate. National guidance in force in Wales for managing major infectious disease emergencies and for pandemic influenza were almost six years old.
201. Public Health Wales had participated in planning for an influenza pandemic and taken part in exercises. This planning was for an influenza virus pandemic and not specifically a novel coronavirus pandemic. Whilst the extent of the work undertaken on emergency planning, the learning gained from this and the service developments that had already happened, put Public Health Wales in a good position to mobilise a response, it is fair to say that Public Health Wales was not able to fully envisage the pace of spread, scale, impact and duration of Covid-19 at the outset of the pandemic.

Preparedness for a high consequence infectious pandemic such as Covid-19, up to 21 January 2020

202. Public Health Wales had in place an on-call service to collate and respond to infectious disease threats. The All-Wales Acute Response (AWARe) service and our on-call arrangements provided round-the clock cover to respond to immediate health protection threats. This included responding to notifications of disease as well as providing advice to professionals on health protection issues.
203. Whilst the AWARe and on-call arrangements took a “make-safe” approach, the wider health protection team provided support on a regional (i.e. health board) footprint for ongoing issues, and to provide support/advice to local partners. This activity included working with LRFs in planning for a range of threats.

204. Within the CDSC, emerging threats are identified in several ways. Firstly, diagnoses from microbiologists and virologists are reported to Health Protection under Public Health legislation or due to clinical concern.
205. Clinical notifications, linked with laboratory results, may also result in the identification of new threats. An example is the increase in Guillain-Barre syndrome in Wales from 2016 associated with enterovirus infection, which was investigated and rapidly communicated by Public Health Wales.
206. Public Health Wales also benefits from UK-wide horizon scanning activities provided by PHE (now UKSHA). This includes a summary of emerging infections distributed by PHE. The senior scientist lead for gastrointestinal, zoonotic and emerging infections works with travel and emerging infections colleagues in PHE and maintains awareness of new threats, communicating these within the department as appropriate.
207. One example is the Zika virus infection which emerged in 2015. The CDSC alerted the healthcare system in Wales through a briefing note and also set up surveillance for possible cases. Other infections including MERS-CoV and Ebola virus disease were also monitored by Public Health Wales and training was provided to the wider health system on awareness of imported infections.
208. In the case of SARS-CoV-2, the initial risk was identified and communicated by the respiratory section in PHE (7 January 2020) - a UK briefing was held and the CDSC sent out a briefing note to the Welsh Government and the NHS in Wales the following day with early information [**Exhibit 25 - INQ000089574 above**].
209. The World Health Organization (WHO) Collaborating Centre on 'Investment for Health and Well-being' (WHO CC) was designated in March 2018, becoming part of a global network of more than 800 Collaborating Centres in more than 80 countries. The WHO CC has been developing, gathering, utilising and sharing expertise, information, practical approaches and innovative tools on how to invest in order to improve health and well-being, reduce health inequities, build stronger communities and resilient systems within and beyond Welsh borders.
210. The WHO CC work strengthens Public Health Wales's European and global collaborations and partnerships. It enables more effective cross-sector and multidisciplinary work, opens various opportunities for knowledge exchange and research, learning from experience and good practice and developing our people and

organisations. This supports the delivery of Public Health Wales' Long-Term Strategy and International Health Strategy **[Exhibit 43 - INQ000089595]**.

211. While the WHO CC Work Plan **[Exhibit 44 - INQ000089596]** is not focused specifically on infectious disease control or emergency preparedness, its work is helping to achieve healthier, prosperous and more resilient populations and communities and a more sustainable health system, which can help mitigate and/or address potential pandemic consequences in the mid to long run. For example, as a result of our designation, we were better prepared to rapidly learn from and share experiences with other countries to help inform the pandemic response through the Covid-19 International Horizon Scanning and Learning reports initiated early in the pandemic in April 2021 (International Horizon Scanning).
212. Public Health Wales delivered training for the use of Personal Protective Equipment for High Consequence Infectious Disease training in 2014 in the response to Ebola.
213. On the 13 September 2019, Public Health Wales delivered refresher training to 65 individuals from the NHS in Wales on the use of Personal Protective Equipment for High Consequence Infectious Disease.
214. As part of this training clinical leaders were further informed of the early management of patients with high consequence infectious disease as well as procurement implications in relation to revised management of high consequence infectious disease guidance which was awaiting publication.
215. In terms of the readiness of structures and systems within Public Health Wales, as at January 2020, Public Health Wales had established emergency planning and response structures and systems in place led by the Executive Director of Public Health Services and Medical Director as the Executive Lead for Emergency Planning and Business Continuity. The Executive Lead then, and now, is accountable to the Chief Executive of Public Health Wales as the Accounting Officer and supported by an Emergency Planning and Business Continuity Team. Governance arrangements included a Public Health Wales Emergency Planning and Business Continuity Group, chaired by the Executive Lead. An Emergency Planning and Business Continuity work plan supported the work of the group. Progress on the work plan is reported into the Emergency Planning and Business Continuity Group three times a year and an end of year report is published. The Executive Lead reports to the Chief Executive and provides updates and items for decision, assurance and escalation to a Business

Executive Team and the Board of Public Health Wales. In 2019, this included attendance at the Public Health Wales Quality, Safety and Improvement Board Committee on the 12 November 2019.

216. Public Health Wales complied with the NHS Wales Emergency Planning Annual Assurance process. This aims to identify gaps in Public Health Wales preparedness and compliance with the requirements of the Civil Contingencies Act 2004 and the NHS Wales Emergency Planning Core Guidance 2015. Public Health Wales submits an annual return to the Welsh Government and the return for 2019 **[Exhibit 45 - INQ000089597]** was submitted on the 24 February 2020. This self-declaration recorded that, in 2019, Public Health Wales had taken part in six communications/activations tests (Welsh Government requirement, two per year), 36 tabletop training exercises (Welsh Government requirement, at least annually), and two major live or simulated exercises within the last three years (Welsh Government requirement, a major exercise within the last three years). In total, during 2019 the Emergency Planning and Business Continuity Team at Public Health Wales delivered 72 events with a total of 543 attendees. The Emergency Planning and Business Continuity work plan considers any identified gaps in organisational preparedness and subsequent recommendations from the NHS Wales Health Resilience Branch in the Welsh Government.
217. In January 2020, Public Health Wales could demonstrate that it was fulfilling its responsibilities under the Civil Contingencies Act 2004. Its Emergency Response Plan at the time had been approved by the Board in September 2018. By the end of 2019, a suite of other supporting documents had also been produced and approved including an Emergency Response Handbook: A guide for Public Health Wales responders, a Gold Group Terms of Reference, A Silver Group Concept of Operations, and an Incident Co-ordination Centre Concept of Operations. In 2019 members of the executive team participated in two exercises (in March and October) to familiarise themselves with the new emergency response plan.
218. The preparations for EU Transition (Brexit) meant that extensive work had been undertaken to review and update business continuity across the organisation. Using an organisation-wide impact assessment to identify the services most at risk of disruption following the UK's withdrawal from the EU, health protection, microbiology and screening services had been identified as most vulnerable, especially if 'no deal' had been reached. This work was undertaken in the wider context of the leadership

given by Public Health Wales, on behalf of the Welsh Government, to health security preparedness in Wales. These services underwent the most detailed review and updating of their business continuity arrangements and, together with informatics, were tested in a series of exercises at the request of the Director General for the Health and Social Services Group in the Welsh Government. Two other multi-agency health security exercises (Allanfa and Allanfa 2) were undertaken in 2019 to examine the response in Wales to a major public health security issue after the UK had left the EU.

Initial Challenges and Actions for Public Health Wales following the Emergence of Covid-19 from January 2020

- 219. These are matters Public Health Wales has evidenced in detail in the evidence submitted for Module 2B.
- 220. **Staffing:** Pre-pandemic planning had always recognised that an “influenza pandemic could put staff under considerable pressure” (Health and Social Care Influenza Pandemic Preparedness and Response Guidance; Welsh Government February 2014). The response to Covid-19 demonstrated this very significantly in terms of both human resources and laboratory capacity. An iterative and rapid approach to the scaling up was adopted by Public Health Wales to this challenge and throughout the response the Welsh Government provided the additional funding necessary.
- 221. In the first three weeks of the pandemic, when there were no known cases in the UK, the response was led and staffed by the Health Protection and Microbiology Divisions. However, by the end of January 2020, and after the WHO declaration of a Public Health Emergency of International Concern and a change of case definition (both occurring on 30 January 2020), enquiries to Public Health Wales increased and therefore an email was sent to all staff asking for support to the enhanced response.
- 222. On the 7 February 2020, there was a further change in case definition, expanding the number of countries from which travellers would need to be screened. This was publicised in the media, following which there was a very sharp increase in enquiries to Public Health Wales. An additional call for volunteers therefore went out on the 10 February 2020. By the 20 February over 80 staff had stepped forward to volunteer. A message from the Chief Executive and Lead Strategic Director updated staff on the situation at the time and gave notice of the likely need for further mobilisation.

223. Over the following week senior health protection staff set out their expectations of the human resources the organisation would be required to mobilise based on information at the time. In response the Lead Strategic Director requested the Director of People and Organisational Development to develop a human resources (re)deployment plan to address the requirements envisaged by Health Protection in an email dated the 26 February 2020.
224. Following the public announcement of the first confirmed case in Wales on 28 February 2020 an all-staff message went out from the Chief Executive and Lead Strategic Director the same day, which explicitly stated that, with the exception of our “patient-facing core services” (health protection, microbiology and screening), the “sole priority for the organisation until further notice is responding to the Novel Coronavirus (COVID-19)”.
225. Over the next week, enquiries to Public Health Wales rose sharply and new rotas for the specialist health protection staff were drawn up. However, following the move from containment to delay on the 13 March 2020, and the move to testing inpatients, the pressure on the Public Health Wales National Contact Centre (described later) dropped. The period during the national lockdown (from 23 March 2020) allowed Public Health Wales to regroup. It was during this period that the National Health Protection Response Plan was developed, which transferred the majority of the contact tracing activity out of Public Health Wales. Public Health Wales still needed its redeployed staff but they were directed into other activities including the Closed Settings Cell.
226. In the second half of 2020, some of the most senior non-health protection consultant staff were redeployed into the role of consultant in health protection, effectively doubling the number of specialist staff. During this period, Public Health Wales also reached out to recently retired public health consultant staff and recruited a number of former staff (who obtained temporary licence to practice from either General Medical Council (GMC) or UK Public Health Register (UKPHR) on a temporary basis) to support the specialist response. On the 13 November 2020, following discussions with the Welsh Government, Public Health Wales submitted a business case to the Welsh Government for an expansion of its health protection resources. On the 15 January 2021, Public Health Wales received a letter from the Welsh Government acknowledging the need for critical resilient investment and seeking clarity on the detail of the case submitted, to distinguish between short-term and long-term requirements. The Welsh Government expressed the view that the latter needed evidence of wider

support from stakeholders. After reviewing the case it had submitted, Public Health Wales submitted a revised case on the 29 January 2021, which was approved on the 10 February 2021. This enabled it to recruit an additional 109 whole time equivalent health protection staff. Separately following a specific submission for funding in relation to the roll out of the new Covid-19 vaccination programme, the Welsh Government also provided funding for the recruitment of an additional 17 WTE staff to provide specialist support to the new vaccination programme.

227. Learning from the initial redeployment of staff in the initial phase, the Health Protection Service, as part of revised models of operation, developed a 'surge capacity' plan, with thresholds to trigger the need for future redeployment of wider Public Health Wales staff. This is being further refined during the review of Health Protection Business continuity planning and the full review of the current Emergency Plan.
228. **Laboratory capacity:** On the 6 March 2020, Public Health Wales notified the Welsh Government of the need for further additional funding to meet the requirements to deliver the response to Covid-19. The Welsh Government confirmed the same day that financial support was available. On the 24 March 2020, Public Health Wales submitted a request for capital funding for testing platforms; approval was received on the 25 March. On the 7 May 2020, a business case was submitted to the Welsh Government for an additional testing laboratory (what came to be known as Imperial Park 5 (IP5) Lab1). This was approved on the 2 June 2020. At the request of the Welsh Government, contracts in respect of IP5 Lab1 novated on the 10 August 2020 to the Department of Health and Social Care in England to support the UK response. Public Health Wales then submitted a business case to improve laboratory turnaround time and laboratory resilience more broadly. This included the development of 'hot laboratories' to deliver rapid (less than four hours turnaround time) Covid-19 testing capacity on six acute hospital sites in Wales plus timely (<12 hours) testing regionally.
229. This was complementary to the development of the IP5 Lab 2, which was primarily focused on delivering serological testing for Covid-19. IP5 Lab2 was handed over from contractors to Public Health Wales on the 7 December 2020. Between August and December 2020, an additional 162 whole time equivalent staff were recruited to the microbiology service at Public Health Wales. The pay costs have since been added to the Public Health Wales core allocation, with non-pay costs claimed on an actual cost basis.

230. Despite being out of its formal scope, Public Health Wales established a National Contact Centre in February 2020, which was a national call handling and advice centre for all settings in relation to guidance and signposting. Later in March 2020, Public Health Wales established an Enclosed Settings Cell for care homes, schools and prisons to provide advice and support in the absence of any other such resource in Wales. In April 2020 Public Health Wales also ran a mass sampling centre in Cardiff City Stadium when it became aware that Deloitte had erected it, as part of the UK Government's testing plans, with no prior notice to Public Health Wales or the Welsh Government.

Learning Gathered from Past Epidemics / Pandemics / Other Events

231. ***Influenza pandemic, 2009***; The A/H1N1pdm09 pandemic was declared as a public health emergency of international concern by the WHO on the 25 April 2009, and a phase 5 pandemic four days later. The pandemic was declared over on the 11 August 2010.
232. Surveillance data shows that activity varied across the UK; highest in Scotland, followed by Northern Ireland, England and Wales. There were two waves observed – in July and September/October 2009. Although 457 people in the UK died (28 deaths in Wales) from the disease during the pandemic it quickly became apparent that the H1N1 pandemic was a relatively mild illness for most of those affected.
233. A review led by a former Chief Medical Officer for Wales, Dame Deidre Hine, published in July 2010, **[Exhibit 46 - INQ000089598]** concluded that “*overall, the UK response was highly satisfactory*” and a UK-wide co-ordinated response seemed to have worked well. Among its conclusions the report drew attention to the “*high levels of uncertainty regarding the nature of the virus*” and “*unrealistic expectations of modelling*”. A National Pandemic Flu Service was established for use across the UK but only used in England; the report commended the flexibility this demonstrated in the devolved context.
234. This pandemic coincided with organisational restructuring in Wales. Up to October 2009, responsibility for health protection and microbiology resided in the National Public Health Service for Wales, which was a division of Velindre NHS Trust. These services transferred to Public Health Wales on its establishment in October 2009.

235. Although the Board of Public Health Wales was not fully established until the middle of 2010, it nevertheless received reports at its meetings in December 2009 and February 2010. As recommended in the Hine Report referred to above, pandemic flu planning in Wales re-commenced in 2011 led by the Welsh Government. Regular updates were provided to the Civil Contingencies – Executive Leads Meeting and a workshop held on the 1 October 2013. This workshop identified several lessons **[Exhibit 47 - INQ000089599]** including the need to develop a social services action list, learn from the experiences of managing the measles outbreak the year before and further develop planning for deployment and use of countermeasures. It was noted that a UK Tier 1 exercise (Cygnus) was being planned for 2014. The Welsh Government published their updated Influenza Pandemic Preparedness and Response Guidance in February 2014.
236. Public Health Wales reviewed its responsibilities guided by the UK Influenza Pandemic Strategy published in November 2011 **[Exhibit 48 - INQ000089600]**. With reference to this strategy, health protection emergency planning leads agreed the response level for activating the Emergency Response Plan ‘*at the first indication that an impending influenza pandemic is a credible threat*’; the need for rapid development and validation of molecular assays; and the importance of building on the FF100 project and the development of the First Few Hundred Database. Molecular assays refers to laboratory tests for rapid detection of influenza virus infection. In the winter of 2017-18, when there next occurred a large increase in influenza, albeit seasonal, Public Health Wales utilised rapid flu testing using molecular methods in emergency departments in Wales. The First Few Hundred (FF100) project is a recognised epidemiological approach to gather information early on laboratory-confirmed cases of an infection e.g. influenza. Our comment refers to our intention to work with others, notably PHE, to ensure that Wales was actively included in FF100 and its development.
237. As described previously, Public Health Wales contributes to all four LRFs in Wales including subgroups for specific functions such as multi-agency infectious disease plans. Subgroups established in the Local Resilience Fora with responsibility for Pandemic Planning include South Wales Infectious Disease Subgroup, Gwent Infectious Disease Subgroup, Dyfed Powys Health Group and North Wales Health Group. Public Health Wales Consultants in Communicable Disease Control / Consultants in Health Protection Chair the South Wales and Gwent Local Resilience Forum Infectious Disease Subgroups.

238. The following Local Resilience Fora plans for Pandemic Influenza were in place as at January 2020:
- a. South Wales Local Resilience Forum Major Infectious Disease Framework (August 2018) Version 2.2 **[Exhibit 49 - INQ000089601]**
 - b. Dyfed Powys Local Resilience Forum Joint Agency Arrangements for Managing Pandemic Influenza (May 2015) Version 4.0 **[Exhibit 50 - INQ000089604]**
 - c. Gwent Local Resilience Forum Major Infectious Disease Framework (September 2017) Version 1.0 **[Exhibit 51 - INQ000089605]**
 - d. Gwent Local Resilience Forum Joint Agency Strategic Arrangements for Managing Pandemic Influenza (December 2015) Version 0a Draft 5 **[Exhibit 52 - INQ000089606]**
 - e. North Wales Resilience Forum Multi-Agency Major Infectious Diseases Framework (4th October 2012) Version 1.0 **[Exhibit 53 - INQ000089607]**
239. These are partnership plans. As such, Public Health Wales contributed to each partnership process of reviewing emergency response plans. This included pandemic flu plans with reference to the government guidance in place at the time, which incorporated the learning from Pandemic Influenza.
240. Public Health Wales was also following guidance available in January 2020, namely the UK Influenza Pandemic Preparedness Strategy 2011 published by the Department of Health and Social Care in England **[Exhibit 48 - INQ000089600 above]**, and the Wales Health and Social Care Influenza Pandemic Preparedness and Response Guidance issued in 2014 **[Exhibit 24 - INQ000089573 above]**.
241. **MERS outbreak, 2012;** Since the first reports of Middle East Respiratory Syndrome (MERS-CoV) in 2012, there have been over 2000 cases reported by the WHO. The majority of reported cases worldwide have been from the Kingdom of Saudi Arabia. A laboratory confirmed case was reported in the UK in 2018 in a resident of the Middle East who had travelled from Saudi Arabia.

242. In 2015, following a large outbreak in South Korea, Public Health Wales conducted an internal exercise to test the organisation's response to MERS-CoV (Exercise Dromedary) [Exhibit 54 - INQ000089608]. The exercise focussed on the response to a case of MERS-COV with community and hospital contacts. The key lessons from the exercise centred on training more senior managers for the principal roles and to update the emergency response plan. The first of these has been a continuous feature of the approach taken by Public Health Wales to emergency planning. The updated emergency plan was presented to the Board in November 2016. The changes were to strengthen strategic, tactical and operational principles of command and control (including roles and responsibilities) and clarity on the role of the Incident Coordination Centre.
243. On the 7 April 2020, the Korea Centers for Disease Control and Prevention hosted a webinar on behalf of the International Association of National Public Health Institutes (IANPHI). The presenters from South Korea who spoke in the webinar reflected on their learned experiences during the SARS (Severe Acute Respiratory Syndrome) outbreak in 2002-04, as well as from the outbreak of MERS in 2015. As a result, they had invested in several preparedness and control measures that were ready and tested at the onset of the pandemic. This included the establishment of a National Command Centre (for emergencies) that provided national government-led coordination of the response to Covid-19. The webinar highlighted the importance of national coordination in emergency response. Wales did not specifically make changes to its national plans in response to the South Korea outbreak in 2015. Then and since Public Health Wales noted that Wales' national emergency planning arrangements already included an arrangement for national coordination – the Emergency Coordination Centre (Wales) (ECCW). The changes we made to our emergency response plans are set out above.
244. **Measles outbreak 2012-2013;** From November 2012 to July 2013, Wales experienced the largest measles outbreak since the introduction of the Measles, Mumps and Rubella vaccine (MMR). Public Health Wales received 1,202 notifications from the health board areas of Abertawe Bro Morgannwg, Hywel Dda and Powys in South West and Mid Wales, with 88 hospital admissions and one death.
245. Between the 18 February and the 17 July 2013, the strategic director at Public Health Wales (Executive Director of Public Health Services) chaired 14 meetings of the Public Health Wales Senior Response Team established to provide strategic leadership of

the response to the outbreak and to coordinate the schools-based catch-up campaign undertaken between April and June 2013. Public Health Wales also gave evidence to a short inquiry conducted by the National Assembly for Wales Health and Social Services Committee in July 2013 and chaired debrief meetings in August and September 2013 that informed the content of the outbreak report, which was published at a press conference on 12 November [Exhibit 55 - INQ000089609]. The then Executive Team at Public Health Wales was actively involved throughout the outbreak and four reports were presented to the Board. The strategic director was invited to, and spoke at, the American Public Health Association annual meeting in Boston in November 2013 on the response to the outbreak.

246. The combined efforts of primary care, health boards, local authorities and public health were effective in halting the outbreak which was declared over on the 3 July 2013. By August 2013, across Wales, at least 77,805 catch-up doses of MMR had been delivered in response to the outbreak. General practitioners (GPs) in Wales had delivered 47,988 of these. Almost a quarter were given to children and teenagers aged between 10 and 18 years. However, despite all these efforts, of the 50,887 children and teenagers who required one or two doses of MMR only 21,493 received them.
247. Reflecting after the outbreak, several challenges were noted. The outbreak tested relationships between health board public health and public health services in Public Health Wales and the catch-up campaign, though successful in stopping the outbreak, still left over 20,000 10-18 year-olds unprotected or only partially protected. This was recorded by the Health and Social Care Committee in its inquiry into the outbreak, leading to a renewed focus on this vulnerable group.
248. Positively, specific successes included the polymerase chain reaction (PCR) diagnostic assay developed by a scientist in the Cardiff Virology Laboratory, which reduced test turnaround time from several days to several hours, and enhanced surveillance methods. The demands on the organisation as a whole and its staff were huge and Public Health Wales learnt considerably from the experience both in terms of lessons for future outbreak management and also for responding to exceptional impacts on the organisation.
249. ***Ebola virus epidemic, 2013-2016***; Public Health Wales undertook an extensive amount of work with the Welsh Government and the other UK countries, with PHE leading as the National Focal Point under the International Health Regulations, to

ensure that Wales could respond appropriately to a case of viral haemorrhagic fever. Initially, the organisation worked with PHE to develop guidance for acute hospitals and general practices in Wales for identifying and managing patients who require assessment; a protocol for the management of a 'possible' or 'highly suspect' case; and other guidance to the NHS, local authorities (environmental health, education and social services), police, port authorities, higher education providers and other agencies.

250. Then, working closely with all public health agencies in the UK, Public Health Wales provided the lead in Wales to prepare the NHS. This included training and education to NHS staff including in the use of personal protective equipment, assessment of healthcare facilities and inventory, and organising and conducting exercises to test organisational preparedness. The Executive Team at Public Health Wales was actively involved throughout the outbreak and four reports were presented to the Board.
251. Two exercises were held, including exercise Marion (23 November 2014), to test our protocol for responding to a 'possible' or 'highly suspected' case and our arrangements were updated accordingly [**above - Exhibit 31 - INQ000089580, Exhibit 31a – INQ000089581, Exhibit 31b – INQ000089582, Exhibit 31c - INQ000089583**]. Public Health Wales, with the Welsh Government, also participated in a four Nations UK-wide exercise on the 10 and 11 December 2014 [**Exhibit 57 - INQ000089614**].
252. A website was created in approximately October 2014, with resources including information and guidance and a framework document that was accessible on the web, recorded and captured all the work undertaken by Public Health Wales to support Ebola preparedness in Wales.
253. Public Health Wales, together with the NHS in Wales, also sent staff to work in the affected countries and worked with PHE and the WHO to support countries adjacent to the affected countries in West Africa to ensure they could mount a prompt response when a case of Ebola was imported. Five Public Health Wales staff were deployed to Sierra Leone between November 2014 and February 2015. In 2014, another member of staff joined an international team assessing risk and providing advice to countries adjacent to the affected countries.
254. From the extensive work undertaken, Public Health Wales recorded the following benefits:

- a. Strengthening our relationships with key agencies and partners especially the NHS, local authorities and police
 - b. Ensuring that we were well stocked with PPE
 - c. Improvements in hospital isolation facilities
255. A meeting was held to lookback following the first seven possible cases and take stock of our learning from the start of the outbreak [Exhibit 58 - INQ000089615]. This concluded that our procedures were sound but needed refinement. One new action was identified which was the need for pre-planning for an individual's return from an Ebola-affected country. Although we had anticipated and prepared for each return on a risk assessed basis, we had not thought before to go one step further and prime ourselves, and health services that would likely have to respond, if the individual became a possible case i.e. develop an anticipatory-care plan.
256. During the course of the outbreak, it also became clear that our limited specialist staff could not support four strategic coordination groups and an agreement was reached with the four SCG chairs to establish a Public Health Strategic Coordinating Support Group. This worked so well that Public Health Wales, with the agreement of the Welsh Government and the four LRF chairs, implemented a similar group in response to the Covid-19 pandemic.
257. ***Zika virus epidemic, 2015-2016;*** Since the first reports of Zika infection in Brazil in 2015, there had been over 300 travel related cases reported in the UK up to 2019. Most were imported from the Caribbean and Central and South America. The mosquito vector is not found in the UK. This meant the disease could not transmit within the UK as it could in those areas which had the mosquito vectors. Therefore, the resulting public health risk in the UK was low. The Health Protection Service published clinical advice in Wales [Exhibit 59 - INQ000089616]. However, given that the risk in the UK was deemed to be negligible and Zika was not listed as a High Consequence Infectious Disease (HCID), no specific training or exercising was undertaken given the low levels of risk in the UK.
258. Public Health Wales' institutional approach to learning and lessons learnt from civil contingency incidents is summarised in a Health Emergency Planning Annual Report, which is submitted to the Board and the Welsh Government on an annual basis. In summary this would include our role in participating in Wales wide training and

exercises, arranging internal training and exercises, and participating in UK wide exercises.

259. Public Health Wales holds a repository of learning where recommendations are extracted from internal and multi-agency debrief reports, and documented if the organisation is listed as the action owner. Lessons are then added to the lessons management system and progress is tracked through the Emergency Planning and Business Continuity Group to ensure their implementation. Please see **Exhibit 59a - INQ000187769** for a list of recommendations as at 17th December 2019 including the relevant status.
260. The oversight and governance of the lessons management system is through the Emergency Planning and Business Continuity Group, and reported on to the Executive Team.
261. In terms of global interactions, Public Health Wales has links directly with several international organisations including the World Health Organization (WHO) Headquarters, WHO/Europe, the International Association of National Public Health Institutes (IANPHI) and EuroHealthNet.
262. Prior to January 2020, examples of how Public Health Wales applied learning from worldwide epidemics to inform its response include the Public Health Wales response to the Ebola Virus in 2015. Applying learning from its own exercises and access to learning with key partners (including PHE), Public Health Wales provided leadership of the NHS in Wales preparation for Ebola Virus disease, co-ordinating a whole of health preparedness for the possible introduction of this pathogen.
263. Public Health Wales joined the International Association of National Public Health Institutes (IANPHI) as an Associate Member in 2012 and, following an application process, was elected as an Institutional Member in 2016. Through its membership of IANPHI, Public Health Wales has access to insights and experiences of nearly half of the countries in the world. In October 2017, Public Health Wales submitted itself to an external peer-to-peer review by a number of other National Public Health Institutes which is a process organised and managed by the IANPHI.
264. Following receipt of the report of the review's findings and recommendations [**Exhibit 60 - INQ000089619**] a management plan was presented to the Board of Public Health Wales in a public meeting [**Exhibit 61 - INQ000089620**].

265. Health protection was recognised as one of the key achievements identified by the Review Team with the report making the following comment: *"Highly recognised, appreciated and undisputed role in the area of health protection by the Cabinet Secretary for Health and Social Services, directors of public health, Welsh organisations including local government, and other nations (England, Scotland, Northern Ireland and across Europe, for example, European Centre for Disease Prevention and Control (ECDC)). The organisation is considered by all as very strong in this domain of public health."*
266. The **2014 NATO Summit** was held at the Celtic Manor Resort near Newport in South Wales on the 4 and 5 September 2014. It was attended by the 28 member countries in NATO at three levels: Head of Government, Foreign Secretary and Defence Secretary. Also attending were over 30 International Security Assistance Force (ISAF) members and partner countries at Head of Government and Foreign Secretary level. The police-led security operation included over 150 protected people accompanied by up to 10,000 support staff and 1,200 media personnel and was described by the Cabinet Office at the time as *"the largest gathering of international leaders to take place in Britain"*.
267. Planning for the event lasted from mid-February 2014 until the third week of August 2014 when the preparations switched into operational mode. The Executive Team at Public Health Wales was actively involved throughout the planning and operational phases and three reports were presented to the Board [**Exhibit 62a - INQ000089621, b - INQ000089622 and c - INQ000089623**]. The specific objectives set for Public Health Wales were to:
- a. Provide enhanced infectious disease surveillance to include incidents.
 - b. Review outbreak and incident response capability.
 - c. Exercise major incident response.
 - d. Devise a model of care for managing health needs of: VIPs and other accredited delegates; non-accredited delegates outside Celtic Manor; police and protestors all of whom will need to be segregated in health care facilities.
 - e. Assess and make plans for the impact on local health service delivery.

268. Several features stood out from this event. Public Health Wales worked well with the Welsh Government, but was not invited to join the Gold Command Group for NATO until early June. In addition, once everyone realised that this could not just be defined in foreign relations and security terms, the advice given by, and actions of, Public Health Wales came under intense scrutiny. This was exemplified in early August in response to our management of an Ebola contact (a returning healthcare worker), which Public Health Wales later judged as the best preparatory exercise undertaken for NATO. This in turn gave Public Health Wales the opportunity to resolve some outstanding issues including the communications protocol with the Welsh Government, working arrangements with PHE, securing equipment including PPE and FFP3 masks, and testing the isolation room at the University Hospital of Wales in Cardiff.
269. On further reflection after the event, it was noted that all our emergency plans had been updated (2014 version Emergency Response Plan) and tested. Wales was now well stocked with equipment and, together with the effect of our preparations for Ebola, progress had been made on improving some of the facilities in NHS organisations in Wales, for example, isolation rooms. Our working relationships with the Welsh Government and PHE had been strengthened and our reputational standing in health protection had been enhanced.
270. Public Health Wales led the public health planning for and response to the biggest sporting event in the UK in 2017, which was the **UEFA Champions League Cup Final** in Cardiff in 2017.
271. Significantly, UEFA coincided with recent tragic terrorist incidents including the Manchester Arena incident two weeks before and the London Bridge incident on the evening of the Cup Final.
272. Preparation began in September 2016. The event was used as an opportunity to test our new emergency response and business continuity plans. Key issues were subsequently recorded in a debriefing report [**Exhibit 63 - INQ000089624**]. As the final game was staged on the same day as the London Bridge terrorist incident, the emerging challenges for public health centred on the increased terrorist threat and the implications for health security including access to health services and concerns about, and therefore preparation for, mass casualties. There had already been work undertaken on mass casualty events and Public Health Wales had been involved in these. Because of recent terrorist events just before the matches, the focus switched

to mass casualties. The role of Public Health Wales then and now is limited in mass casualty events.

273. Following the UK European Union Membership Referendum in June 2016, NHS organisations in Wales were asked to consider and prepare for the potential impact of a no-deal Brexit on the 29 March 2019. Public Health Wales had already set up a formal **EU Exit Programme** in November 2018 to ensure the organisation was fully prepared for when the UK left the EU. The programme ran until the 31 March 2021 and was organised into a number of phases.
274. In December 2018, Public Health Wales undertook a Brexit-related business continuity impact assessments, based on a 'No Deal' scenario [**Exhibit 64 - INQ000089625**]. This work culminated in a series of targeted internal business continuity exercises conducted during January 2019.
275. In September 2019, additional business continuity exercises for identified critical services (Microbiology, Health Protection and Screening) were undertaken [**Exhibit 65 - INQ000089626, Exhibit 65a - INQ000089627, Exhibit 65b - INQ000089628, Exhibit 65c - INQ000089630, Exhibit 65d - INQ000089631**].
276. In October 2019, specific business continuity exercises were held for the Public Health Wales Executive Team to test the revised Gold Terms of Reference and Executive and On Call Handbook [**Exhibit 66 - INQ000089632**]. The Gold Group Exercise on the 21st October 2019 and 30th of October 2019 examined the strategic response to three scenarios: fuel shortages, explosion at a chemical site and pandemic Influenza. The exercise tested the Gold Group Terms of Reference and Standing Agenda.
277. Public Health Wales hosted the first of two strategic walk-through exercises in March 2019 (Allanfa #1), to test Public Health Wales' and partners' capability to investigate, contain and respond to a major public health threat post Brexit. Allanfa #2, the second Public Health Wales strategic walk through exercise, was held on the 1 October 2019. Debrief reports were produced for both, which contained a set of observations and recommendations that were implemented post event [**Exhibit 67 a - INQ000089633 and b - INQ000089634**].
278. In December 2018, the Executive Director of Public Health Services was appointed by the Welsh Government to act as Senior Responsible Officer on behalf of the NHS in Wales for Health Security and host the Health Securities' Subgroup of the Welsh

Government EU Transition Leadership Group. The terms of reference for the Group were agreed in July 2019 **[Exhibit 68 - INQ000089635]** along with a risk area based Programme Plan **[Exhibit 69 - INQ000089636]**. The Chief Executive of Public Health Wales was also a member of the EU Transition Ministerial Advisory Group.

279. Public Health Wales chaired the Four Nations' Health Protection Emergency Planning meetings, which were held monthly. In 2019, work commenced on drafting a Health Protection Non-Legislative Framework (NLF) between all four countries. In January 2021, a Trade and Cooperation Agreement on Health Security: Protocol on UK National Focal Point was agreed between the four nations.
280. In January 2019, Public Health Wales published The Public Health Implications of Brexit in Wales: a Health Impact Assessment Approach **[Exhibit 70 - INQ000089640]**, which examined in detail how all aspects of the Brexit process may impact health. In October 2019, the Public Health Implications of Brexit in Wales: A Health Impact Assessment Approach A Rapid Review and Update was published **[Exhibit 71 - INQ000089638]**. This report provided an overview of whether and how the potential impact of Brexit on public health may have changed since the publication of the original Health Impact Assessment.

Public Health Wales Involvement in UK Pandemic / Epidemic Simulations training and exercises

281. Public Health Wales undertakes exercises based on emerging hazards and threats, and in accordance with the lessons management systems, the national risk assessment and local risk registers across Wales. This is done independently, as part of the Local Resilience Fora across Wales, and also with the NHS Wales Training and Exercise Group.
282. For example, in response to the Salisbury Incident involving the nerve agent, Novichok (March 2018), Public Health Wales organised and led a series of exercises known as Exercise Melyn in 2018, commissioned by the Chief Executive of Public Health Wales and the Chief Constable of South Wales Police. A debrief report was produced to capture learning **[Exhibit 72 - INQ000089639]**.
283. The exercises were jointly designed and delivered by PHE's Centre for Radiation, Chemicals and Environmental Hazards (CRCE) Wales Office and Public Health

Wales. They examined the Strategic Coordinating Group (SCG) response to a deliberate chemical release in a populated fictional location.

284. The multi-agency events were held across Wales in each local resilience forum area as follows:

- a. South Wales LRF Area (3 April 2018)
- b. Dyfed Powys LRF Area (11 July 2018)
- c. Gwent LRF Area (13 July 2018)
- d. North Wales LRF (12 September 2018)

285. The key learning from these exercises was the need for more guidance on the Scientific and Technical Advice Cell (STAC) arrangements for Wales and a recommendation to the Wales CBRN (Chemical, Biological, Radiological and Nuclear) Group to consider a proposal to develop an all-Wales CBRN plan.

286. Public Health Wales was involved in **Exercise Cygnus**, for Pandemic Influenza, in October 2016. Exercise Cygnus was a UK Tier 1 level exercise to test our influenza pandemic preparedness arrangements. The exercise was designed to be held in three phases:

- a. Phase 1: A workshop on health planning and response, looking at the assessment and detection stages of a pandemic,
- b. Phase 2: The main exercise, focusing on the treatment and escalation phases, and
- c. Phase 3: A recovery exercise.

287. Phase 1 was held on 14 May 2014, with participants attending the ECC(W) in Cathays Park, Cardiff. In Wales, local plans in all four Local Resilience Forum areas were tested in Phase 1. Attendees included the Executive Director for Public Health Services at Public Health Wales. Outcomes from the exercise are recorded in a minute of the Wales Civil Contingencies – Executive Leads Meeting dated 3 February 2015 [**Exhibit 72a - INQ000187770**]. Personal learning included the need for internal staff resilience planning and clarification of the relationship between Public Health Wales and local health boards.

288. At the time, Public Health Wales was actively planning for the NATO Summit and these points were incorporated into the updating of the emergency response plan.
289. Phases 2 and 3 were originally planned for October 2014 but were delayed for various reasons including the onset of Ebola and eventually took place over three days, 18-20 October 2016. The Executive Director for Public Health Services at Public Health Wales was attending a meeting in China on the dates of the exercise and two senior consultants in health protection attended for him. Welsh participation was conducted from Cardiff and led by Welsh Government officials; Public Health Wales attendees mainly observed proceedings and provided advice on request. The Exercise Cygnus Report published in 2017 **[Exhibit 73 - INQ000089641]** records the outcomes of this UK exercise.

Capturing Lessons Learnt

290. Public Health Wales seeks to ensure that lessons identified are learned. An Emergency Planning and Business Continuity Lessons Management System tracks progress, whether lessons identified are being implemented and can be interrogated for reoccurring debrief themes.
291. Recommendations are extracted from internal and multi-agency debrief reports and documented if the organisation is listed as the action owner. They are then added to the Lessons Management System monitored through the Emergency Planning and Business Continuity Group to ensure their implementation.
292. The Lessons Management System enables thematic analysis to be conducted, as this is considered the most appropriate approach for analysis due to quantity of data, ability to identify key themes and patterns within the dataset, and flexibility of the analytical approach.
293. Oversight and governance of the Lessons Management System is through the Emergency Planning and Business Continuity Group and reported on to the Executive Team.
294. The Emergency Planning and Business Continuity Lessons Management System for NHS Wales considers recommendations from national incidents and exercises. The

Emergency Planning and Business Continuity Team at Public Health Wales administer this on behalf of the NHS Wales Emergency Planning Advisory Group (EPAG).

295. For example, lessons identified from UEFA Multi-Agency Champions League Debrief in 2017 were added to the NHS Wales Lessons Management System, tracked, and monitored to ensure their implementation.
296. Public Health Wales is a core member of the Emergency Planning Advisory Group where the NHS Wales Lessons Management System is regularly reviewed, and the Emergency Planning and Business Continuity Team ensure that any lessons identified through this route are considered for inclusion on the Public Health Wales Lessons Management System.
297. The Public Health Wales Lessons Management System is regularly reviewed to inform updates to the Emergency Planning and Business Continuity Work Plan and for any subsequent changes or updates relevant for the Emergency Response Plan.
298. Public Health Wales has provided evidence on lessons learnt from the pandemic response period within the detailed evidence submitted for Module 2B. These lessons include learning from the challenges of;
 - a. Scaling up services and ensuring adequate staff and resource.
 - b. Creating new systems, services and infrastructure for example in connection with contact tracing.
 - c. Operating outside of our formal specialisms for example by setting up and running a mass sampling centre.
 - d. Ensuring responsibility for advice and reporting channels was clear.
 - e. Suspending core public health functions and activities in order to re-deploy staff to assist with the response to the pandemic.

Staff Training

299. Training and exercises are tailored specifically to the type of incident being simulated e.g. flooding. All risks and all population groups, including those with specific needs e.g. the disabled, clinically vulnerable people and others are considered in each incident response. Please note the preparation of plans and the exercising of these provides only a framework for consideration of issues and decision making.

300. The Emergency Planning and Business Continuity Team maintain records of Public Health Wales staff trained in relation to its emergency plans.
301. As at January 2020, the organisation had 10 Strategic Directors, nine Tactical Incident Managers, 12 Watchkeepers, 22 Silver Group Administrators and 35 Loggists trained and available to support a response.
302. In addition, a further 19 individuals had participated in Exercise Wales Gold including seven Executive Directors and a further three Senior Managers who would act as deputies that were Wales Gold Trained as at January 2020. Exercise Wales Gold brings together strategic leaders who would participate in a Strategic Co-ordinating Group (SCG) or a Recovery Co-ordinating Group (RCG) to respond to or recover from an emergency or major incident.
303. The course aims to prepare multi-agency strategic leaders to work effectively as a member of a SCG or a RCG during or following an emergency (or major incident), through the development of skills, knowledge and experience. The Debrief report from the 2019 exercise is attached with details of course aims and Public Health Wales staff attendance [**Exhibit 73a - INQ000187771**]. Through written assignments undertaken after the course participants may gain a level 5 or level 7 qualification from Agored Cymru.
304. Staff listed above will have attended internally developed sessions such as the Public Health Wales Tactical Incident Manager training. Alternatively, training is provided through the Local Resilience Fora, and examples of these would be the Wales Gold and Wales Silver courses designed and delivered by the Wales Learning Group. Courses are aligned to relevant National Occupational Standards.
305. Public Health Wales regularly participated in Live exercises prior to January 2020. These are recoded in each of the Public Health Wales Annual Reports to the Welsh Government. Referencing the Welsh Government Annual Report of 2020 [**Exhibit 74 - INQ000089642**], which captures data for training and exercising from the 1 January up to the 31 December 2019; Public Health Wales held one live exercise for Executive Training.
306. Public Health Wales regularly participated in tabletop exercises prior to January 2020. These are recorded in each of the Public Health Wales Annual Reports submitted to

the Welsh Government. Referencing the Welsh Government Annual Report of 2020, which captures data for training and exercising from 1 January up to 31 December 2019, Public Health Wales held 36 tabletop training exercises (for example Silver Group Training)

307. Public Health Wales regularly tested the set-up of its control centre prior to January 2020. These are recorded in each of the Public Health Wales Annual Reports submitted to the Welsh Government. Referencing the Welsh Government Annual Report of 2020, which captures data for training and exercising from the 1 January up to the 31 December 2019, Public Health Wales established its Incident Control Centre on 21 separate occasions as part of training and exercising.
308. Public Health Wales regularly participated in testing of Communications prior to January 2020. These are recorded in each of the Public Health Wales Annual Reports submitted to the Welsh Government. Referencing the Welsh Government Annual Report of 2020, which captures data for training and exercising from the 1 January up to the 31 December 2019, Public Health Wales participated in six communications tests initiated through the Biannual Welsh Ambulance Services NHS Trust and through the Exercise Wales Connect programme.
309. Exercise Wales Connect seeks to test activation arrangements for a Strategic Co-ordinating Group (SCG) following a request from the Welsh Government to a simulated Level 2 emergency, as described in the Pan Wales Response Plan. This activation test practices notification arrangements, with the Cabinet Office setting a target of two hours to achieve. Exercise Wales Connect is run three times a year and tests activation arrangements in hours, out of hours (weekday) and out of hours (weekend). These exercises are supported by LRF Chairs. Activation exercises provide Category 1 and 2 responders with the opportunity to practice their participation in the SCG activation process.

Public Health Wales Role – PPE

310. The procurement and maintenance of PPE stockpiles was a UK Government and Welsh Government countermeasures led activity. Public Health Wales infection, prevention and control (IPC) specialists provided some input to the Welsh Government countermeasures group in relation to the interpretation of the IPC guidance, but we had no role in the procurement or maintenance of the PPE stockpile.

Public Health Wales – Data Sources

311. **Covid-19 Deaths and inequalities data;** In a proportion of the population, infection with SARS-CoV-2 can lead to severe illness and tragically, in some people, it can lead to death. Mortality and hospitalisation are 'lagged' surveillance indicators, peaking some weeks after peaks in transmission. As at September 2022, the ONS has recorded that 10,714 people in Wales have died where Covid-19 was a contributory factor. Covid-19 deaths reported to Public Health Wales as part of a rapid mortality surveillance scheme are lower (7,821). The reason for the difference in numbers is due to the Public Health Wales surveillance system being designed to give a rapid indicator of laboratory testing confirmed COVID-19 mortality in hospitals and care home residents reported within 2-3 days, whereas the ONS figures have a lag of 10-14 days, but are a more comprehensive set of figures for all COVID-19 registered deaths based on the universal death registrations process also including deaths occurring in the community and other settings. ONS figures also include deaths in both cases where COVID-19 was suspected and confirmed or only suspected and not confirmed through laboratory testing.
312. Daily deaths reported through this surveillance peaked following the first epidemic wave at 43 deaths on the 13 April 2020, and, following the second epidemic wave, at 58 on the 1 January 2021. Subsequent large peaks in infection have not been accompanied by large peaks in mortality. However, although deaths have remained at relatively low levels, they were maintained at between 10 and 20 deaths per day over a 12-month period from September 2021 to September 2022. Large increases in deaths were observed following the first two epidemic waves, reaching up to twice the expected rate based on the five years before the pandemic. More recently in 2022, weekly reported deaths have been more in line with the levels seen in the five-year period before the pandemic, based on ONS data. Public Health Wales has not produced any primary data sources that break down deaths by age, sex, ethnicity, level of deprivation, population density/region.
313. Covid-19 has not affected everyone equally. Serological data from blood donors provides evidence of higher transmission in younger people, people in black and minority ethnic groups and people living in urban South East Wales. There is a marked increase in the risk of severe disease in older people, particularly older men. People living in poorer communities in Wales have been particularly affected, and an analysis by Public Health Wales' Communicable Disease Surveillance Centre provides

evidence that certain black and minority ethnic groups were at increased risk of hospitalisation during the first epidemic wave. Reasons for this are complex but are likely to be related to the increased prevalence of chronic health conditions, public-facing jobs that could not be done from home, and larger multigenerational households. The South Wales Valleys have had persistently high rates of infection, hospitalisation and mortality, sometimes amongst the highest in the United Kingdom. Public Health Wales is currently examining the determinants of Covid-19 as well as Covid-19 attitudes and behaviours in the former coal mining areas of Wales.

Interaction with Other Bodies During the Relevant Period

314. As a Category 1 responder, Public Health Wales is/was fully engaged in the Wales Resilience Forum, chaired by the First Minister of Welsh Government. Terms of Reference are in place **[Exhibit 75 - INQ000089643]**. There has been in existence for many years a Health Protection Advisory Group, convened by and reporting to the Chief Medical Officer for Wales. After a period of abeyance the Group was re-established in May 2018. The purpose of the Group is to provide an overview on health protection in Wales and highlight any gaps that may exist. Public Health Wales was represented by the Executive Director of Public Health Services, and now the National Director of Health Protection and Screening Services, and the Director of Integrated Health Protection/ Deputy Director of Public Health Services.
315. **Other devolved Governments;** Public Health Wales did not engage directly with other Devolved Governments on EPRR. However, Public Health Wales was party to a Memorandum of Understanding made between Public Health England and the Welsh Government signed in August 2013 **[Exhibit 76 - INQ000089644]**. This document was still in force in January 2020 and set out “an agreed framework for cooperation between the Parties”. The document was signed on behalf of Public Health Wales by the Executive Director for Public Health Services and schedules describe the responsibilities of each party and working arrangements. In June 2014, Public Health Wales (and counterpart agencies from England, Scotland and Northern Ireland) agreed to establish a UK Health Protection Oversight Group under the leadership of the Medical Director for Public Health England. This Group still existed in January 2020, though its focus in the preceding year had been on EU transition and risks to health security.

316. **The UK Government;** Public Health Wales did not engage directly with the UK Government on EPRR. This was the role of Welsh Government officials. However, senior officials from DHSC were also represented on the Four Nation Health Protection Oversight Group and engaged with the Four Nation EPRR group activities e.g. in planning for EU Transition and the development of the Common Framework Policy for Health Security and Health Protection.
317. Prior to Covid Public Health Wales, attended a Four Nation Health Protection Oversight Group (NB from 2018 this was specifically focussed on EU transition).
318. The Four Nation HPOG, established an Emergency Planning and Response sub group in January 2019. This was specifically in relation to the planning and response to EU Transition and the group developed a meeting rhythm to align with the PHE Incident Management Team. Emergency planning officers from Health Protection services in Public Health England, Public Health Agency Northern Ireland and Public Health Scotland (formerly Health Protection Scotland) were invited to attend. The group was chaired and convened by Public Health Wales. The group was formally adopted as a subgroup of the Four Nation Health Protection Oversight Group in 2021 and a specific priority objective was included in the work programme approved by the UK Health Protection Committee. The group continues to meet and is currently approving its work programme including lessons learnt workshops in relation to recent Four Nation health protection incidents e.g. Monkeypox (mPox)
319. **Welsh Health Boards;** As a Category One responder under the Civil Contingencies Act, Public health Wales is a core member of all of the four Local Resilience Fora across Wales (see below). Each Health Board is also a member of one of the Local Resilience Fora. Public Health Wales worked with each Health Board on EPRR at the relevant LRF. This included sharing plans, working on specific 'health response' planning; undertaking joint learning events and exercises and working with each Health Board once an SCG was formed in response to an incident e.g. Swine Flu in 2009. Public Health Wales is also part of the Wales Resilience Partnership team (see below) and worked alongside Health Board representatives. In addition, Executive Directors of Public Health in each Health Board, (until 30 September 2022) held an honorary contract with Public Health Wales to enable them to manage Local Public Health team staff. As such Public Health Wales also liaised directly with DPHs in relation to the public health response to emergencies e.g. measles. As core members of an Outbreak Control team (see Communicable Disease Outbreak Plan for Wales)

Public Health Wales engaged specifically with Health Boards and Local Authorities in relation to the planning and response of Communicable Disease emergencies e.g, Ebola. During the response to Ebola, Public Health Wales established a single co-ordination Group to share information (Public Health Strategic Co-ordination Support Group), to which all HBs were invited. The positive learning from this response resulted in the same co-ordination group being established to share information during the Covid-19 response.

320. **The Emergency Services;** As a Category One responder under the Civil Contingencies Act, Public Health Wales is a core member of all of the four Local Resilience Fora across Wales (see below). The Emergency Services are also members of all four of the Local Resilience Forums. Public Health Wales worked with the Emergency Services at the relevant LRF.
321. **Local Authorities;** As a Category One responder under the Civil Contingencies Act, Public Health Wales is a core member of all of the four Local Resilience Fora across Wales (see below). Each Local Authority is a member of one of the Local Resilience Forums. As core members of an Outbreak Control team (see Communicable Disease Outbreak Plan for Wales) Public Health Wales engaged specifically with Local Authorities (through Directors of Public Protection) and Health Boards in relation to the planning and response of Communicable Disease emergencies.
322. **Private sector partners;** Public Health Wales mainly engaged with private sector partners in relation to the procurement of goods and consumables in relation to its services.
323. **Voluntary sector partners;** Public Health Wales mainly interacted with voluntary sector partners through attendance at LRF/SCG meetings across Wales.
324. **Public Health England, Public Health Agency Northern Ireland and Public Health Scotland (formerly Health Protection Scotland);** Public Health Wales engaged regularly and directly with the other Public Health/ Health Protection services across the UK both prior to and during the Covid-19 response. This included but was not exclusive to:
 - a. Incident Directors from Public Health Wales regularly attended Incident Management team meetings in relation to Four nation (UKHSA led) incidents

including High Consequence Infectious Diseases (HCIDs) prior to and during the Covid-19 response

- b. Prior to the pandemic, Public Health Wales attended the four UK Nations Health Protection Oversight Group (HPOG), and, from April 2021, the new statutory Health Protection Committee. From 2018, the HPOG focus was in relation to the agreement of a Common Framework for Health Protection and Health Security (EU Transition) and planning for the run-up to the UK's exit from the European Union including up to the final stages of transition ending on the 31 December 2020.

- 325. The Four Nation HPOG established an Emergency Planning and Response subgroup in January 2019. This was specifically in relation to the planning and response to EU Transition and the group developed a meeting rhythm to align with the PHE Incident Management Team. Emergency planning officers from Health Protection services in Public Health England, Public Health Agency Northern Ireland and Public Health Scotland (formerly Health Protection Scotland) attended the group. In April 2021 an Emergency Planning objective was included in the work programme approved by the Four Nation Health Protection Oversight Group and UK Health Protection Committee at its inaugural meeting in October 2021. The group remains active and has an approved work programme.
- 326. This EPRR subgroup, ensured good general communication between the Four Nations EPRR services through EU Transition (and then Covid-19), including maintaining a contact directory for Four Nation health protection services in and out of hours. The group also contributed to the development of the Common Framework on Health Protection and Security that was adopted during this period.
- 327. The group undertook a debrief/ lessons learnt on the workings of the EPRR group in May 2019. The group also facilitated a Four Nations exercise on mutual aid on 30 October 2019 and an exercise on 22 January 2020 to test the communication and response arrangements between the four Nations.

Public Health Wales engagement and liaison with multi-agency groups with EPRR functions or activities.

- 328. Below are the pre-January 2020 generic multi-agency Emergency Planning relationships;

329. ***The Four Local Resilience Forums in Wales;*** As a Category One responder under the Civil Contingencies Act, Public Health Wales is a core member of the four Local Resilience Fora across Wales.
330. Public Health Wales attended, and continues to attend, Strategic and Tactical LRF meetings, and provided further support to key risk specific subgroups such as the Risk, CBRN, infectious disease and Health across Wales through Consultants in Communicable Disease Control / Consultants in Health Protection as well as the Emergency Planning and Business Continuity Team. The multi-agency representatives work collaboratively to achieve their aims, and report via the governance structures in each of the local resilience fora.
331. ***Wales Resilience Forum;*** The Executive Lead for Emergency Planning (or nominated deputy) attends and is fully engaged in the Wales Resilience Forum, chaired by the First Minister. Terms of Reference are in place **[Exhibit 75 - INQ000089643 above]**.
332. ***Wales Resilience Partnership Team;*** Public Health Wales also provides Senior Officer representation (for emergency planning) at the Wales Resilience Partnership Team meetings.
333. The purpose of this group is to take strategic direction from the Wales Resilience Forum in delivering specific aims, objectives and targets in resilience work on an all-Wales basis, and work in partnership with Local Resilience Forums in delivering agreed objectives at the all-Wales level where added value and support can be provided to the multi-agency work being undertaken locally.
334. ***The Wales Risk Group;*** The Emergency Planning and Business Continuity Team is a core member of the Wales Risk Group, which was chaired by Public Health Wales between January 2018 and November 2020.
335. ***The Wales Learning and Development Group;*** The Emergency Planning and Business Continuity Team regularly represent Public Health Wales at the Wales Learning and Development Group, supporting the development of training and exercising opportunities across the four Local Resilience Fora. Terms of Reference are in place **[Exhibit 77 - INQ000089645]**.
336. ***NHS Emergency Planning Advisory Group;*** Public Health Wales is a core member of the Wales-wide Emergency Planning Advisory Group. Its purpose is to bring

together key stakeholders to provide a forum for discussing, developing and promoting NHS emergency preparedness and response requirements, across Wales, arising from the Civil Contingencies Act 2004. Terms of Reference are in place [Exhibit 78 - INQ000089646].

337. **NHS Mass Casualty Group;** The Wales NHS Mass Casualty Planning Group is a sub-group of the Wales NHS Emergency Planning Advisory Group and brings together key health stakeholders to discuss and develop Wales health preparedness and response arrangements for major incidents where there are mass casualties.
338. The Group's activities are reported into the Wales NHS Emergency Planning Advisory Group and, where appropriate, to the Director General Health and Social Services Group/NHS Wales and NHS Wales Medical Directors Group, as noted by the Group's Terms of Reference. Public Health Wales is a core member of the NHS Mass Casualty Group. Terms of Reference are in place [Exhibit 79 - INQ000089647].
339. **NHS Wales Training and Exercising Group;** The Wales NHS Training and Exercising Group is a sub-group of the Wales NHS Emergency Planning Advisory Group and co-ordinates delivery of NHS Wales training and exercises in accordance with the NHS Wales Lessons Management System, the national risk assessment and local risk registers across Wales, where appropriate, in order to support validation of emergency plans. Public Health Wales is a core member of the NHS Wales Training and Exercising Group. It is accountable to the Wales Emergency Planning Advisory Group. Terms of Reference are in place [Exhibit 80 - INQ000089649].
340. **The Joint Emergency Services Group;** Public Health Wales regularly liaises and engages with the Joint Emergency Services Coordinator through groups such as the Wales Learning and Development Group and the Wales Risk Group. Public Health Wales is not a member of the Joint Emergency Services Group.
341. **The European Programme for Intervention Epidemiology Training Vaccinology Module (EPITET);** Public Health Wales has been involved in the European Programme for Field Epidemiology Training (EPIET) since 1995, including training fellows for the two-year fellowship within Wales up to 2019, training of existing staff members, and provision of teaching, training and co-ordination for the programme. From 2019, we have been involved in a similar programme for the UK, the UK Field Epidemiology Training Programme, which has leadership in UKHSA, and currently have three fellows in training. EPIET involvement ceased after the UK's EU exit.

342. For EPIET, Public Health Wales hosted the 2018 one-week module on vaccinology in Cardiff, including provision of facilities, facilitation and teaching.
343. To give context to the above, EPIET itself is a programme led by European Centre for Disease Control (ECDC) and involves sites in member states. It is not classified as a “multi-agency group” with EPRR functions. EPIET fellows do get involved in surveillance and outbreak investigations but they are trainees rather than core staff in an EPRR set up.

How Public Health Wales Cooperated with these Groups

344. Public Health Wales is required to co-operate and share information with local responders to enhance coordination and efficiency. Responders defined under the Civil Contingencies Act regionally collaborate and share information through Local Resilience Fora, Pan-Wales Groups and NHS Wales Groups to develop and maintain multi-agency emergency plans.
345. Public Health Wales provides representation to all four Local Resilience Fora in Wales including identified subgroups as appropriate through the Emergency Planning and Business Continuity Team, Consultants in Communicable Disease Control / Consultants in Health Protection and the Communications Team. Subgroups of the Local Resilience Fora are established for the purpose of planning for identified risks informed by the Local Risk Registers. This includes the development of multi-agency plans where the organisation provides further representation.
346. Examples in which Public Health Wales engage with Local Resilience Fora include Executive Groups, Coordination and Training Groups, Health Groups, Infectious Disease Groups as well as Warning and Informing. Public Health Wales contribute to the subgroups of the Local Resilience Fora through providing standing membership and Chairperson where appropriate.
347. The organisation further engages on a pan-Wales basis with partners across NHS Wales through the NHS Wales Emergency Planning Advisory Group (and associated subgroups including Training and Exercising, Mass Casualty and Pre-Hospital). The organisation provides standing membership and where appropriate lead areas of work which have included but are not limited to NHS Wales Lessons Management System, Major Incident eLearning and a Mass Casualty Exercise.

348. Contributions at the Pan-Wales level of the organisation are further reflected by Public Health Wales representation at Pan-Wales Groups with Category 1 and 2 responders, Chair of JESG and the Welsh Government in attendance. This includes the PREPARE Delivery Group, Wales Learning and Development Group and the Wales Risk Group. Public Health Wales have previously held the Chair of the Wales Risk Group and contribute to Pan-Wales Groups through providing standing representing through the Emergency Planning and Business Continuity Team. Public Health Wales Executives provide further representation to the Wales Resilience Forum chaired by the First Minister.
349. Public Health Wales further engaged with the Four Nations Public Health Agencies as a group, which was established in January 2019 to bring together Emergency Planning / Incident Leads in the context of Brexit. Arrangements continue to be strengthened in the establishment of a Four Nations Public Health Emergency Preparedness Resilience and Response Group chaired by Public Health Wales.
350. The details of structures and processes to support engagement of the organisation in Emergency Planning Groups through Local Resilience Fora, NHS Wales and on a Pan-Wales basis (and associated subgroups) are reflected in the Groups Terms of Reference with the following examples provided:
- a. NHS Emergency Planning Advisory Group
 - b. Wales Risk Group
 - c. Wales Learning and Development Group
351. The Public Health Wales Emergency Planning and Business Continuity Group coordinates Emergency Planning and Business Continuity arrangements across the organisation and with multiagency partners and structures such as Local Resilience Forums and the Wales Resilience Forum.
352. Details and evidence of Public Health Wales' engagement during the relevant period in Local Resilience Fora, Pan-Wales Groups and NHS Wales Emergency Planning Groups are evidenced through minutes of group meetings (including associated papers) which are held by the group's secretariat e.g. Local Resilience Forum Coordinators. Examples provided include:
- a. Wales Learning and Development Group Meeting (29 April 2019)

- b. South Wales Local Resilience Forum Executive Group Meeting (18 June 2019)
- c. NHS Wales Emergency Planning Advisory Group Meeting (24 September 2019)

Future Risks and Lessons Learnt – Covid-19

353. Public Health Wales has provided detailed evidence on lessons learnt within the evidence submitted for Module 2B. These lessons include learning from the challenges of;
- a. Scaling up services and ensuring adequate staff and resource.
 - b. Creating new systems, services and infrastructure for example in connection with contact tracing.
 - c. Operating outside of our formal specialisms for example by setting up and running a mass sampling centre.
 - d. Ensuring responsibility for advice and reporting channels was clear.
 - e. Suspending core public health functions and activities in order to re-deploy staff to assist with the response to the pandemic.

Public Health Wales – State of Future Preparedness

354. Public Health Wales' current state of preparedness and resilience, strategic priorities and plans regarding its EPRR functions is summarised and reported in a Health Emergency Planning Annual Assurance Report, which is submitted to the Public Health Wales Board and the Welsh Government on an annual basis. The latest report covering the period 2022 is being completed at present for submission in January 2023.
355. Public Health Wales continues to develop and learn from its response to the Covid-19 pandemic and an immediate priority is to incorporate the learning into the organisation's Emergency Response Plan. A formal review of the Public Health Wales response plan was included as a key objective in the first year of the organisation's Integrated Medium Term Plan (IMTP) for 2022-2023. The review has commenced in 2022 and is set to conclude during early 2023. The review process for the Emergency Plan involves engagement both internally and externally with key stakeholders.

356. The Health Protection service has, and continues to, review its current plans for surge capacity and a revised plan will be approved alongside the revised Emergency Plan. Infection Services have, and continue to, review surge testing plans both for SARS CoV2 and for wider emergency response.
357. Public Health Wales has undertaken a number of internal structured debrief and learning exercises during the pandemic response including at Strategic Response level, Tactical response level and Board governance level. Recommendations and observations from these learning processes are being used to inform the review and refresh of the organisation's Emergency Response Plan.
358. Public Health Wales has increased its investment in the EPRR function during the last year, in recognition of the need for more capacity to support this area of work. There are proposals to further strengthen the team in the next financial year.
359. In September 2022, Public Health Wales provided specialist advice to the Welsh Government on 'Living with COVID-19: Proposal for Communicable Disease Control in an Endemic State'. The endemic response plan focused on three key areas: diagnostics and therapeutics, surveillance and evidence, and prevention and control. The transition of the Public Health Wales response from pandemic to endemic is following this approach. Further detail on this is provided within our response to Module 2B.
360. The Welsh Government commissioned Public Health Wales to lead on an interim review of the All Wales Communicable Disease Outbreak Control Plan. This included a review of learning from the Covid-19 response and was completed in July 2022. The revision was developed in partnership with key stakeholder, including Directors of Public Protection and Directors of Public Health and was published in October 2022.
361. Public Health Wales recommended to the Chief Medical Officer for Wales that a review of the health protection system in Wales (including local authorities and the NHS) would be of benefit in order to learn from the pandemic. This was commissioned by the Welsh Government in summer 2022. The review findings and recommendations are expected in early 2023 and this will shape the priorities for Public Health Wales' future roles and responsibilities.
362. As part of the Four Nations Health Protection Oversight Group, Public Health Wales is helping shape, and will be participating in work to carry out, a review of the health

protection workforce across the UK. This will include engaging with professional bodies to develop a competency framework and build an understanding of the specialist and generalist workforce that can contribute to enhanced health protection response in future.

Statement of Truth

I believe that the content of this corporate witness statement is true to the best of my knowledge and belief.

Signed:

Personal Data

Print name: Dr Quentin Sandifer OBE

Dated: 27th February 2023