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Position: National Director, Health Protection and Screening Services – Public Health Wales
Statement No.: First
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UK COVID-19 INQUIRY
MODULE 3

FIRST CORPORATE WITNESS STATEMENT OF PROFESSOR FU-MENG KHAW

I, Fu-Meng Khaw care of Public Health Wales, 2 Capital Quarter, Tyndall Street, Cardiff, CF10 4BZ, will say as follows: -

1. This Corporate Witness Statement is provided by me in my capacity of National Director of Health Protection and Screening Services and Executive Medical Director of Public Health Wales in response to a request for evidence made by the Inquiry Team to Public Health Wales dated 2 June 2023.

Overview of Public Health Wales

2. Public Health Wales was established in 2009 by bringing together four distinct pre-existing entities:
    a. the National Public Health Service for Wales,
    b. the Wales Centre for Health,
    c. the Welsh Cancer Intelligence and Surveillance Unit and,
    d. Screening Services.

3. 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.

4. 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 collaboration (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, research and evidence to improve public health
    c. our core public health services, particularly microbiology and health protection, along with adopting new diagnostic methods such as molecular diagnostics and whole genome sequencing, through our Pathogen Genomics Unit.

5. An overview of our latest organisational structure can be found at [**EXHIBIT FMK/1 INQ000056268**]

6. Public Health Wales protects and improves health and well-being and reduces health inequalities for the people of Wales. It is an NHS Trust, established for the purpose specified in section 18(1) of the National Health Service (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.

7. 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.

8. Over the years, we have expanded the core public health functions of the organisation in order to ensure that we are best designed to deliver our statutory functions and the strategy of the organisation. This is informed by the challenges and opportunities facing the nation, the policy and legislative environment and international developments.

9. The Chief Executive has overall operational accountability for the organisation. The National Director of Health Protection and Screening Services / Executive Medical Director (the title was formerly known as the Executive Director of Public Health Services / Medical Director until 2021) is accountable for the development and delivery of services in relation to their directorate remit, namely microbiology (including pathogen genomics), screening programmes and health protection. 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 the Welsh Government within the scope 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.

10. 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.

11. 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. It comprises of a Chairperson, seven Non-Executive Directors (also known as Independent members), all of whom are appointed by the Minister for Health and Social Services in the Welsh Government, and six Executive Directors, including the Chief Executive.

12. The Board has responsibility for:

    a. Setting the strategic direction of the organisation
    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. Ensuring the successful delivery of the Strategic and Operational plans of the organisation.

13. In addition to their role as Board Members, Executive Directors also have responsibility for discharging Public Health Wales' corporate and public health functions.

14. 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,

professionals, 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 and clinical microbiology advice, information, intelligence, and support.

15. This involved working with a range of partners in relation to the healthcare system. This included:

    a. **Specialist professional advice** on specific phases of the pandemic, immunisation, infection prevention and control and personal protective equipment, including supplementary guidance for health and social care professionals, sampling and testing, surveillance, and national and local public health interventions.
    b. **Incident response**: The provision of health protection advice following notification of an incident to support incident response including control of transmission and infection prevention and control measures.
    c. Developing and disseminating **surveillance and intelligence** for the public and the wider system (e.g., COVID-19 Surveillance Reports)
    d. Delivering **key public health functions and services** (e.g., health protection including outbreak response and management, and microbiology diagnostic services including pathogen genomics).

16. In addition, the Healthcare Associated Infection, Antimicrobial Resistance and Prescribing Programme ("HARP") team of Public Health Wales is responsible for supporting the NHS in Wales, the wider health and care sector and the population of Wales to reduce the burden of infections, including healthcare associated infections, and antimicrobial resistance. This is delivered through three main areas of work:

    - Antimicrobial Stewardship
    - Infection Prevention and Control
    - Surveillance of Antimicrobial Usage & Resistance (AMU/AMR) and Surveillance of Healthcare Associated Infections (HCAI).

17. The Infection Services Division of Public Health Wales delivered:
    a. The majority of NHS-based testing for SARS-CoV-2 across Wales
    b. Local specialist Clinical Microbiology services to Health Boards
    c. Local specialist Clinical Microbiology advice to Health Boards
    d. Local specialist Medical Microbiology advice and support to Health Boards
    e. Specialist Infectious Diseases clinical services to Swansea Bay and Cardiff and Vale University Health Boards
    f. Specialist Infectious Diseases advice across Wales.

18. During the COVID-19 response Public Health Wales established, or was part of, specific additional multi-agency meetings, to convey specialist public health information and advice to strategic partner organisations in relation to healthcare systems. The following provides examples of this.

19. **Health and Social Services Group (HSSG) Coronavirus Planning and Response Group**. This group was established by the Welsh Government and attended by NHS Wales and social care organisations. Public Health Wales attended initially through the lead Strategic Director and communicated the latest COVID-19 epidemiology to partners. The first meeting was held on 20 February 2020.

20. **Public Health Wales / Health Board Meetings**. During February 2020, Public Health Wales convened a number of meetings between itself and the health boards and other NHS trusts in Wales in order to provide advice and assist discussions about the necessary system-wide response in Wales. For example, these meetings supported the early implementation of home and community testing facilities across Wales, in the absence of other structured response arrangements.

21. **Public Health Wales / Chief Medical Officer for Wales meetings**. From 26 January 2020, informal catch-up meetings took place between Public Health Wales and the Chief Medical Officer for Wales.

22. **NHS Chief Executive meetings.** From March 2020, the Director General of Health and Social Care Division, at the Welsh Government, set up regular meetings between NHS Chief Executives and the Welsh Government to share information on COVID-19 and identify areas where further input was required. The Public Health Wales Chief Executive attended these meetings.

Working with other bodies, including the Welsh Government, and key officials, in relation to healthcare systems during the COVID-19 pandemic

23. Public Health Wales, through HARP, engaged with the UK COVID-19 Infection Prevention and Control (IPC) Guidance Cell that was set up under the emergency arrangements of NHS England to develop COVID-19 Infection Prevention and Control Guidance for the UK. The Chief Nursing Officer for England, Ruth May, was the Senior Responsible Owner (SRO) and the group was made up of representatives from the following bodies:

    a. NHS England and Improvement
    b. Public Health England which became UKHSA
    c. Department of Health and Social Care (UK Government)
    d. HARP Team, Public Health Wales
    e. Antimicrobial Resistance and Healthcare Associated Infection Team (ARHAI), National Services Scotland
    f. Public Health Agency Northern Ireland.

24. The Public Health Wales HARP team advised the NHS in Wales, including the health boards and trusts, on the UK COVID-19 IPC guidance, and supported organisations to be aware of any changes to the guidance and to advise on implementation.

25. The HARP team was also represented in the Nosocomial Transmission Group Wales, chaired by Deputy Chief Medical Officer for Wales, Professor Chris Jones, and Chief Nursing Officer for Wales (Professor Jean White until Easter 2021, followed by Sue Tranka). The group advised on measures and actions for the

healthcare system in Wales to implement in order to manage or reduce nosocomial transmission of COVID-19.

26. Public Health Wales more widely contributed to various Welsh Government committees or advisory groups including the Technical Advisory Group, as documented within our response to Module 2B. We also engaged with other parts of Public Health England (later UKHSA) in regard to COVID-19 variant groups, genomics, and Incident Management Teams.

27. There was no direct engagement between Public Health Wales and The National Institute for Health and Care Excellence (NICE).

28. The UK COVID-19 IPC Guidance Cell did take the views of the Academy of Medical Royal Colleges into account in the development of its IPC guidance, but there was no direct engagement between Public Health Wales and the Academy of Royal Colleges. Public Health Wales was made aware of the views of the Academy of Medical Royal Colleges through its membership and chairing of the IPC Guidance cell.

29. In the context of COVID-19, the requests for advice to the Welsh Government increased significantly. Advice was primarily requested by the Welsh Government officials including, but not limited to, the Chief Medical Officer for Wales and the Chief Scientific Adviser for Health. Advice was provided in a variety of forms including formal Advice Notes, formal reports (for example, the Public Health Protection Response Plan **[EXHIBIT FMK/2 INQ000056350]**, contributions from staff during meetings between Public Health Wales and the Welsh Government and/or Ministers, and in meetings with the Welsh Government and other stakeholders. We did not take part in, or hold any informal records or evidence of, informal or private communications (e.g., WhatsApp groups) with Ministers or senior civil servants that informed significant decision-making.

30. On 12 October 2020, Public Health Wales submitted its first 'Advice Note' to the Welsh Government. Prior to this (January 2020 – October 2020), Public Health Wales had given advice to the Welsh Government through a range of routes. Such

requests were mainly reported through the Public Health Wales' Incident Management Team/Gold Group. However, Public Health Wales does not have a single coordinated record of all such engagement and response during these initial months, given that it covered a wide range of interactions across this period, including multiple contacts from across the Welsh Government, on many topics/risks and often with short deadlines for response. The establishment of Advice Notes was in part applying lessons learnt, to coordinate the receipt of formal Welsh Government requests for advice and provide a single point for provision of formal advice to the Chief Medical Officer for Wales. Examples of the ways that advice was requested and provided include:

a. Formal structured meetings with the Chief Medical Officer for Wales and other Welsh Government officials.
b. Specific written email requests for advice from the Welsh Government and Public Health Wales response (for example, to Public Health Wales's Chief Executive and lead Strategic Director).
c. Questions raised by email and considered by Incident Directors and/or the Public Health Wales Incident Management Team.
d. Specific advice offered proactively to the Welsh Government (to e.g., Chief Medical Officer for Wales, Deputy Chief Medical Officer for Wales, Chief Nursing Officer for Wales) in relation to specific topics/developments.
e. Sharing lessons learnt in relation to aspects of the response to the pandemic.

31. Public Health Wales Advice Notes covered a broad range of topics. Examples of Public Health Wales Advice Notes that were specifically relevant to the delivery of healthcare services include:

a. **Advice Note 20**: 8 September 2021 entitled 'Ongoing Control of COVID-19 during Recovery and Autumn/Winter 2021'. The advice included a recommendation for the:

i. Monitoring of NHS and Social Care capacity (both for bed capacity and workforce availability) with a view to identifying, early, any indicators that would overwhelm the system. **[EXHIBIT FMK/3 INQ000056330]**

b. **Advice Note 24**: 24 December 2021 entitled 'Reduction in isolation period supported by Lateral Flow Device (LFD) testing for cases of COVID-19'. The advice specifically referenced recommendations for healthcare staff and stated:

   i. Public Health Wales would support introduction of a policy that would allow individuals to be released from self-isolation after Day 7 if they have had a negative Lateral Flow Test on Day 6 and Day 7.

   ii. Public Health Wales would support the inclusion of Health and Social Care workers within this policy with additional mitigation of risk through existing measures including daily pre-shift LFD testing. **[EXHIBIT FMK/4 INQ000056315]**

   iii. At that time COVID-19 cases were required to self-isolate for 10 days from diagnosis. There was a proposal, which had been enacted in England, that cases could be released from isolation after Day 7, if they had two negative Lateral Flow Tests taken 24hrs apart on Days 6 and 7.

   iv. Evidence had been presented by UK Health Security Agency's (UKHSA) Public Health Advice, Guidance and Expertise (PHAGE) group to the four CMOs regarding the duration of self-isolation period for COVID-19 cases and the potential to reduce this period with support from repeat testing with Lateral Flow Devices (LFDs). Public Health Wales reviewed the evidence paper from the UKHSA including the Joint modelling team, Public Health Advice, Guidance & Expertise (PHAGE) and the Virology cell, *Duration of self-isolation period for COVID-19 cases* dated 19/12/2021 **FMK/108 INQ000074558** **and** supported a similar approach in Wales.

c. **Advice Note 29**: 17 February 2022 entitled 'Hospital patient testing for SARS-CoV-2'. The advice related specifically to the testing of patients in hospital for COVID-19 and described details of a revised testing strategy for use in hospitals. The pre-existing hospital patient testing framework recommended:

   i. Testing all elective admissions with a Nucleic Acid Amplification Test (NAAT) such as PCR

   ii. Testing all hospital admissions with a NAAT or Point of Care Test (POCT)

   iii. Repeat testing of all asymptomatic in-patients every 5 days (or more frequently in areas of high nosocomial transmission).

d. As part of the considerations when preparing this advice note, the risks from SARS-CoV-2 were balanced against the need to deliver routine and emergency healthcare, and the impact of testing regimes. The key elements of the new testing proposal from Public Health Wales were:

   i. Continued pre-elective-admission testing, although NAAT testing was focused on patients where there would be a potential individual risk from infection.
   ii. Asymptomatic admission testing focused on Days 0, 2/3, and 5.
   iii. Routine asymptomatic testing of in-patients was not recommended.
   iv. Step-down or discharge to closed settings based on symptom resolution and time elapsed from a positive test primarily.

e. These changes to testing were recommended in the context of,

   i. A reducing community incidence of SARS-CoV-2
   ii. High levels of immunity in the population due to vaccination and natural infection
   iii. A relatively modest impact on hospital admissions and mortality due to high community incidence of SARS-COV-2 during the Omicron peak. The extent of nosocomial associated mortality was significantly reduced in the Omicron wave.

f. The recommendations of the advice note stated:

   i. Based on a balance of risks, Public Health Wales is supportive of testing arrangements as described for specific settings/situations outlined.
   ii. If the situation changes, for example due to a new variant of concern emerging or increasing community incidence of SARS CoV-2, the testing regime should be reviewed again. **[EXHIBIT FMK/5 INQ000068180]**

32. Public Health Wales also provided specific advice offered into the Welsh Government in relation to its own service delivery. Examples of this advice are set out below.

33. On 17 March 2020, advice was given to the Welsh Government: '*Recommendation on the feasibility of maintaining delivery of population-based screening programmes in light of government advice in response to COVID-19'* **[EXHIBIT FMK/6 INQ000191814]**.

34. All of the population-based screening programmes were carefully considered in light of the guidance issued on the 16 March 2020 by the UK Government to consider the feasibility of maintaining the programmes. It was recognised that:

a. Many screening staff would not be able to undertake their screening roles due to self-isolation guidance as they might be a household contact of a possible case; or
b. They would be advised to self-isolate as they were in a vulnerable group due to their health condition or being pregnant.
c. Many of the participants invited for screening would not attend due to the social distancing guidance advising against non-essential travel and non-essential contact.

35. Public Health Wales' advice to the Welsh Government included a detailed summary of risks and benefits and a rationale for recommendations made for each programme. In summary:

a. It was recommended that Public Health Wales should suspend all invitations and cancel screening clinics from 18 March 2020 for the following programmes: Diabetic Eye Screening Wales, Wales Abdominal Aortic Aneurysm Screening Programme, Breast Test Wales, Bowel Screening Wales and Cervical Screening Wales.
b. It was recommended that Public Health Wales should complete all screening pathways for those participants who had been screened.
c. It was recommended that Public Health Wales should continue with the surveillance pathway of Wales Abdominal Aortic Aneurysm Screening Programme for those individuals who had already been screened and identified as having a small or medium abdominal aortic aneurysm.

d. It was recommended that Public Health Wales should continue with Antenatal Screening Wales, Newborn Bloodspot Screening and Newborn Hearing Screening programmes as all have short windows for intervention and failure to identify conditions can result in severe and life-threatening complications and/or are part of routine antenatal and post-natal care.

36. The recommendations were accepted by the Welsh Government and were implemented by Public Health Wales from 18 March 2020.

37. On 21 April 2020, the Public Health Wales' lead Strategic Director for COVID-19 sent email advice to the Chief Medical Officer for Wales on a 'Recovery Strategy' **[EXHIBIT FMK/7 INQ000191815]**.

38. Public Health Wales recommended to the Welsh Government that the Health Protection element of the next phase of the pandemic response should be focused on four key areas:

a. Surveillance
b. Cluster/outbreak management
c. Testing
d. Risk communication

39. Public Health Wales specifically asked for confirmation as to whether the Welsh Government agreed with this assessment and asked a series of further questions of the Welsh Government:

a. Will Welsh Government give us the go ahead to work on this?
b. How will Welsh Government mobilise the resource required to deliver the actions of the next phase?
c. What is the command/control arrangement for the next phase and how will it be enforced?

40. As context, the email advice explained that the experience of the previous week had demonstrated the need for the whole health and social care system to be

involved and that the recovery strategy was bigger than just the health protection elements above. It was stressed that the recovery strategy could not be delivered by Public Health Wales alone, even with the mobilisation of all its resources and local public health. Instead, some elements needed to be done in partnership with other bodies. For example, cluster/outbreak management would need major inputs from local authorities with Public Health Wales providing technical and specialist support. The email advice stated that the human resources required would not only exceed Public Health Wales' existing capacity but were beyond Public Health Wales' means to mobilise. Another body(ies) would need to lead the recruitment of and manage the workforce requirements necessary.

41. The email advice further explained that all of this needed a clear strategic structure with leadership from the Welsh Government. To that end Public Health Wales noted that the existing HSSG led by Samia Edmonds was well placed to shift from its focus on acute system response to recovery and beyond. HSSG had well established subgroups that could take whole sections of the recovery strategy/plan and turn them into operational deliverables quickly. Within this, of course, Public Health Wales confirmed that it would make its contribution. The email concluded by asking for the Welsh Government to set this out clearly to the system in the form of a written instruction and offered to discuss the above at a meeting later that afternoon.

42. On 16 July 2020, a Public Health Wales Deputy Medical Director sent email advice to the Chief Nursing Officer and Deputy Chief Medical Officer in Wales relating to 'Face Coverings in the wider community' **[EXHIBIT FMK/8 INQ000191818, EXHIBIT FMK/9 INQ000191819, EXHIBIT FMK/10 INQ000191820, EXHIBIT FMK/11 INQ000191821, EXHIBITFMK/12 INQ000191822, EXHIBIT FMK/13 INQ000191817].**

43. It was explained in the email that the issue of face coverings for wider use in the community had been raised in the Healthcare-Onset COVID-19 Infection (HOCI) Group that she had attended that day. The email included copies of six separate documents on 'face coverings' that had been received at the meeting and explained that it had been reported to this HOCI Group that there had been a

strong desire for the use of face coverings in the wider community to be adopted as a four-nation approach, but that Wales had declined, and Scotland and Northern Ireland were still considering their position. There had also been a discussion in the HOCI group and a view from the group's Chair (Professor Mark Wilcox) that 'this approach needed to be implemented, with strong support from the Royal Colleges and the Pharmaceutical society, and that with face coverings now being mandated for use in shops / retail settings in England, this now needed to be sorted out so that community pharmacies etc. would have a consistent approach.'

44. The email concluded by flagging to the Chief Nursing Officer and Deputy Chief Medical Officer that, following this HOCI discussion and Chair's view, there had been an action taken by the HOCI secretariat, for a "further chasing up of the CMOs / senior leaders group" to seek agreement for this proposed policy.

45. Wales has devolved responsibility for delivering healthcare services and this is primarily undertaken within Wales by Health Boards, Trusts and Specialist services working with the Welsh Government.

46. In this context, Public Health Wales' engagement in the co-ordination of the response of the healthcare systems across the UK was limited to:

    a. During the initial phase of the COVID-19 response, Public Health Wales attended a Public Health England led (4 Nations) Incident Management Team in the UK context. The Incident Management Team was established by PHE in its role as the UK National Focal Point for international health regulations in order to share information about the Wuhan virus outbreak. Public Health Wales disseminated this information in briefings to the Welsh Government and the NHS in Wales. During the first three months of the pandemic, the Public Health England-led Incident Management Team was the principal source of epidemiological information which informed the 4 Nations response up to the first national lockdown. [**EXHIBIT FMK/14** **INQ000224053** It led on the development of case definitions used in the UK, and on guidance and scientific developments including testing. Following the first

national lockdown, Public Health Wales continued to attend this Incident Management Team (IMT), sharing public health information which informed rather than coordinated any response by each Nation's healthcare service.

b. Where appropriate to inform the management of infection e.g., cross border incidents of infection, data on cases and contacts were shared by Public Health Wales with the relevant nation to inform response.

c. In the initial period of the response, Public Health Wales worked with the Welsh Government and the High Consequence Infectious Disease service (HCID) network in England to secure and co-ordinate the appropriate transfer, inpatient facilities and clinical care arrangements for the first Welsh patient with COVID-19, confirmed on 28 February 2020. As of 19 March 2020, COVID-19 was no longer considered to be an HCID in the UK. After this date, the local clinical management of patients with COVID-19 infection commenced within Wales.

d. In relation to Variants and Mutations of COVID-19, Public Health Wales attended the expert UK COVID-19 Variant Technical Group (VTG) established by Public Health England to assess the risk and clinical impact of new and existing Variants and Mutations of COVID-19. Public Health Wales also attended the 'Variant and Mutations Task Force' established by Public Health England to advise on and coordinate the operational management of Variants and Mutations of COVID-19.

The remit of Public Health Wales in relation to healthcare systems during the COVID-19 pandemic

47. In the early weeks of the pandemic response, Public Health Wales' Communicable Disease Surveillance Centre (CDSC) epidemiology specialists contributed advice on the potential impact of COVID-19 on NHS Wales resources and facilities. Analyses on the expected hospital activity and mortality impacts were prepared, which were adapted from models from NHS England. This originated from conversations with the Welsh Government officials who had seen NHS England projections and requested whether these could be 'interpreted' in a Wales context. **[EXHIBIT FMK/15 INQ000224061]**

48. The initial projections simply scaled the numbers to 5% of the England totals to account for the overall difference in population. When the more detailed figures became available on age-specific case rates, these were standardised to the Wales population based on age group. Public Health Wales did not scale in other ways as these were not specified in the estimates. Wales has a slightly older population so the revised estimates would likely have had higher hospitalisation and deaths overall.

49. Public Health Wales cannot comment on every iteration but as the model from NHSE was refined (with respect to assumptions) Public Health Wales were able to provide other estimates - for example whether we used 25% or 40% of the Reasonable Worst Case (RWC) scenario, and changes to the RWC scenario made by Imperial College London. Given that the RWC was likely to be an over-estimate of the most likely case, Public Health Wales provided estimates for 25% of the RWC in our initial outputs and this was consistent with the approach taken by NHS England. The Welsh Government emails to Health Boards chose to include 40% of the RWC. In any event, the first wave produced around 7% (25% of 25%) of the RWC, meaning that the 25% RWC was an overestimate. The percentage that was experienced was partly due to the lockdown preventing the full wave from playing out, and partly due to (particularly older) people being hospitalised and admitted to ICU. Public Health Wales is unsure as to why the Welsh Government provided estimates for 40% of the RWC. The effect of using different percentages is to reduce the numbers, at 25% of RWC the daily cases would be 25% of those in the RWC.

50. In addition to the Public Health Wales advice note prepared on the 17 March 2020 (FMK/6 above) regarding its national population screening programmes, and following risk assessments and discussions with Welsh Government officials, Public Health Wales wrote again to the Welsh Government on the 18 March 2020, **[EXHIBIT FMK/16 INQ000056346]** recommending the temporary suspension of Breast Test Wales, Cervical Screening Wales, Bowel Screening Wales, Diabetic Eye Screening Wales and Wales Abdominal Aortic Aneurysm Screening. The recommendation considered the Welsh Government announcement of plans to

suspend non-urgent outpatient appointments and non-urgent surgical admissions and procedures in order to redirect staff and resource to support the pandemic; and UK Government guidance to stop non-essential social contact and travel. Welsh Government officials confirmed their acceptance of the recommendation, and a proactive press release was released on the 20 March 2020 which included a quote from the Minister for Health and Social Services. As COVID-19 cases started to reduce from May 2020, plans to reinstate COVID-19 safe screening pathways against agreed criteria were implemented and the risk based and phased implementation of the paused programmes started from June 2020. Antenatal Screening Wales, Newborn Bloodspot Screening and Newborn Hearing Screening programmes were not paused as these all have a short window of intervention and can prevent impactful complications for newborns, and these continued throughout the pandemic.

51. Public Health Wales did not have any role in providing advice or guidance on the following:

    a. The capability of different sectors of the healthcare systems, including 111, 999/ambulance services, primary care and secondary care, to scale up or down to respond to areas of need;
    b. The use of technology to reduce face to face contact in healthcare settings (such as remote meetings and consultations).

52. Discharge of patients from hospital settings was guided by the Welsh Government hospital discharge policies. Public Health Wales provided advice on testing through discussion and e-mail correspondence in the period March – September 2020 when the COVID-19 testing system was being developed and rolled out in Wales. Public Health Wales also provided advice via the Technical Advisory Group (TAG) for Testing. Public Health Wales' National Clinical Lead for Microbiology Services chaired the Testing TAG and it was substantially composed of colleagues from Public Health Wales. It developed guidance which was published by TAG in June 2020 and then an update in November 2020 **[EXHIBIT FMK/17 INQ000349696 EXHIBIT FMK/18 INQ000056318]**. Testing TAG also provided

advice in September 2020 regarding repeat testing prior to discharge into care homes. **[EXHIBIT FMK/19** **INQ000066460**

Public Health Wales' role in relation to IPC measures and general guidance within healthcare settings

53. The Head of HARP and Assistant Medical Director, and the Consultant Nurse for HCAI and IPC (within the HARP programme) became members of the UK COVID-19 IPC Guidance Cell at the beginning of the pandemic with the first meetings beginning at the end of January 2020. They advised, reviewed, and developed the UK COVID-19 IPC guidance as part of that group in collaboration with IPC leads from the Four Nations and Public Health England. The UK COVID-19 IPC guidance was the IPC guidance that Public Health Wales signposted to colleagues in health boards, primary care and care homes for use / implementation in Wales.

54. The forms and standard of personal protective equipment (PPE) to be used by workers were set out in the UK COVID-19 IPC guidance. Standards for PPE were also laid out by the Health and Safety Executive (HSE).

55. There were concerns about the supply of PPE, particularly at the beginning of the pandemic, but the UK COVID-19 IPC Guidance was developed independently of those concerns and followed the World Health Organization guidance / evidence on routes of transmission at the time.

56. Public Health Wales had no role in testing the adequacy or suitability of PPE. PPE is procured by health boards and trusts following set standards including from the HSE.

57. Public Health Wales did not have a role in advising on the use of PPE which was out-of-date in healthcare settings. Local Clinical Microbiology teams did have a role in how national guidance was implemented locally. The pandemic stockpile of PPE, which was put together by the UK government, did have some out-of-date products. There was an exercise to evaluate whether these products were safe to use with revised dates, which we understand was undertaken by NHS Wales

Shared Services (Procurement) in collaboration with NHS Supply chain UK and the PPE suppliers.

58. The use of masks for patients as source control was covered in the UK COVID-19 IPC Guidance.

59. Cohorting and physical distancing were measures included in the UK COVID-19 IPC guidance. Ventilation systems and the use of portable air cleaning devices were not covered in the IPC guidance. Public Health Wales did not have a role in advising on these –that was the responsibility of NHS Wales Shared Services (Estates). **[EXHIBIT FMK/20 INQ000275990, EXHIBIT FMK/21 INQ000074966, EXHIBIT FMK/22 INQ000275992]**

60. Public Health Wales did advise on COVID-19 testing for healthcare staff. For example in March 2020, Public Health Wales provided an advisory note **[Exhibit FMK/106 INQ000252289]** to the CMO Wales and CEO of NHS Wales on the interim approach to take in Wales regarding the testing of health care workers for COVID-19. The advisory note acknowledged that keeping healthcare workers off work for 7 days based on symptomatology pending a negative result would have been detrimental to the safe running of the service compared to providing negative result at day 2 or 3 to allow them to return to work. Based on a careful risk assessment, healthcare workers who worked in the following areas were recommended to be considered for testing:

a. HCWs involved in frontline patient facing clinical care working in the following units
b. Acute Medical Assessment Units
c. Emergency Departments
d. Critical Care Units/Intensive Care Units
e. Primary Care
f. EMS frontline NHS Ambulance staff
g. Priority testing during periods of significant demand were also specified.

61. The benefits of testing healthcare workers were noted as:

a. Although a negative test does not rule out infection with COVID-19, it provides a basis for early return of HCWs from self-isolation to support the running of the service
b. HCWs who test positive and recover from the infection can be redeployed to care for COVID-19 patients during the peak of outbreaks.

62. Public Health Wales also had verbal discussions with the Welsh Government, Health Boards and the Welsh Ambulance Service Trust which led to input in the Welsh Government testing policy that was subsequently published. Public Health Wales led delivery of testing of symptomatic healthcare staff as key workers.

63. In November 2020, Public Health Wales developed an SBAR, (Situation, Background, Assessment and Recommendation) report Healthcare Worker Screening for COVID FMK/103 INQ000469680 FMK/104 INQ000396180 FMK/105 INQ000310491 for the Welsh Government. This was sent to the Deputy Chief Medical Officer and modelled different testing strategies for healthcare workers. The SBAR noted that while there was some uncertainty, it was understood at that time that approximately 40% of infected/infectious staff may be asymptomatic or pauci-symptomatic (i.e. have some symptoms, such as sore throat, myalgia, headache, but do not have the classic 3 symptoms to fulfil the case definition). Further the current control measures for staff introduction should have identified 60% of introductions, although asymptomatic and pauci-symptomatic staff would not be identified and excluded. The options for identifying asymptomatic or paucisymptomatic individuals were noted as:

a. Routine testing of asymptomatic/paucisymptomatic staff through the use of LFD's and Loop-mediated isothermal AMPlification (LAMP) assays.
b. Alteration to the case definition for testing and exclusion of staff in order to include paucisymptomatic staff.

64. The SBAR further drew attention to the performance data for LFD's, the impact of testing in populations with different COVID-19 prevalence, modelling, limitations of testing and the selection of staff for testing. It concluded by making the following recommendations:

a. Regular staff testing may have a role in identifying asymptomatic/ paucisymptomatic staff members.
b. Modelling suggests that regular testing with LFDs may be able to reduce transmission events by approximately 50%.
c. Pilots of regular staff testing with LFDs could be useful in:
    i. Healthcare settings where the community prevalence is high (e.g. >1%)
    ii. Healthcare setting with high prevalence of COVID-19 (e.g. in hospital outbreaks.

65. It should be noted that the availability of testing was dependent on the Welsh Government funding and procuring LFD tests. Public Health Wales' microbiology services were already delivering polymerase chain reaction (PCR) testing at that time.

66. The response from the Deputy Chief Medical Officer was that he thought they now had Ministerial agreement in principle to implement staff testing and that testing colleagues were formalising advice. **FMK/107 INQ000469684**

67. In relation to changes to rules relating to visiting patients in hospitals, the Welsh Government had a hospital visiting group chaired by the Chief Nursing Officer and/or members of her office. IPC specialists of the Public Health Wales HARP programme were members of the group and advised in relation to IPC measures to enable safe visiting.

68. In general, Public Health Wales did not have a role in producing guidance for healthcare settings. In relation to the IPC guidance, a challenge was experienced with regard to the timely dissemination of updates of the IPC guidance to all Health Boards and Trusts. Although guidance was approved by the UK COVID-19 IPC guidance cell, there was a pre-publication approval process outside the control of the cell that resulted in a delay to publication on the GOV.UK website.

Understanding of the SARS-CoV-2 virus

69. As at 1 March 2020, there was only one confirmed case of COVID-19 in Wales, insufficient for analyses of the epidemiological parameters and other aspects of COVID-19 infection; therefore Public Health Wales obtained understanding of the nature of and spread of SARS-CoV-2 in the following ways:

a. through learning from the experience of other countries, including other nations of the UK,
b. reviewing modelling papers and analyses including those prepared by Public Health England (who had more and earlier cases), and
c. the sharing of information through situational awareness reporting e.g., through the Public Health England Incident Management Team (IMT).

70. Public Health Wales' understanding of COVID-19 changed, as the pandemic progressed, and learning originated from a variety of sources including:

a. Public Health Wales analysis of cases in Wales
b. Public Health Wales specialist experts engaging with:
    i. The Welsh Government Technical Advisory Cell (TAC) meetings including gaining access to some papers originating from expert groups e.g. SAGE. (Public Health Wales engagement with SAGE and access to information is described in paragraph 119 of the Module 2B corporate statement)
    ii. Public Health England Incident Management Team and Situational awareness meetings
    iii. Published international literature and evidence.

71. Public Health Wales' CDSC sent a written summary of the daily situation reports to Welsh Government colleagues and passed on information through other meetings, including a daily IMT meeting within Public Health Wales and (initially) a daily Welsh Government meeting from 26 January 2020. **[EXHIBIT FMK/23 INQ000224067 EXHIBIT FMK/24 INQ000224078 EXHIBIT FMK/25 INQ000224087 EXHIBIT FMK/26 INQ000224088 EXHIBIT FMK/27**

INQ000224097, EXHIBIT FMK/28
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INQ000224030 EXHIBIT FMK/30
INQ000224031 EXHIBIT FMK/31
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INQ000224048 EXHIBIT FMK/45
INQ000191674, EXHIBIT FMK/46
INQ000224050 EXHIBIT FMK/47
INQ000224052 EXHIBIT FMK/48
INQ000224040 EXHIBIT FMK/49
INQ000224054

72. During the early stages of the pandemic, Public Health Wales was mainly concerned with surveillance and reporting of possible and subsequently confirmed cases and did not undertake any specific reports on transmission, lacking sufficient data to do this.

i. Modes of transmission and infectiousness

73. Public Health Wales' knowledge of the transmission and infectivity properties of COVID-19 changed during the course of the pandemic, informed from the sources of information outlined above in paragraphs 69 and 70.

74. Public Health Wales' early advice and response to SARS CoV-2 drew upon the existing knowledge of the epidemiology, management and control of other Acute Respiratory Infections whose modes of transmission were known to include droplet / airborne spread, and some potential transmission through contact (direct/ indirect e.g. hard surface). For example, the public advice/ advocacy for regular handwashing seeks to minimise risk of transmission through indirect contact routes. Public Health Wales subject matter experts attended meetings where the emerging evidence regarding modes of transmission was discussed. However, there was no definitive conclusion and pragmatically, in common with other respiratory viral infections, we accepted there would be elements of airborne and

droplet transmission and that this would vary between individuals and temporally within individuals, as well as in different environments. Throughout the pandemic, this seemed to be confirmed in practice.

75. Public Health Wales' organisational understanding of the nature of spread of the SARS-CoV2 virus is further summarised in paragraphs 47 - 70 of this statement. This understanding developed over time and through the organisation's specialist staff.

76. During the course of the pandemic this information was also considered alongside other relevant information including development and administration of population vaccines, development of and availability of tests for COVID-19, variations and mutations of the COVID-19 virus.

77. All relevant available information was used by Public Health Wales to inform its advice to Government both during the early phases of the pandemic and in the later submission of Public Health Advice Notes.

78. To give an example, transmission and infectivity relates primarily to the immune response of the host, and in March 2020, the UK and Wales had an immunologically naïve population with a respiratory virus that had adapted to humans with sustained human to human transmission occurring. This was one of the reasons why Public Health Wales microbiology and virology experts worked so rapidly to ensure that there was a suitable 'test' available in Wales that could be used for COVID-19.

79. Public Health Wales subject matter experts were of the view that in the early stages of response, information on asymptomatic transmission could only be extrapolated from what we knew about other coronaviruses, i.e., that it can happen but its role in transmission and driving epidemics was not clear. In January 2020, Public Health Wales received from PHE a copy of a technical document relating to 'asymptomatic transmission' of COVID-19. The document concluded that: '*The currently available data is not adequate to provide evidence for major asymptomatic/subclinical transmission of 2019nCoV. Detailed epidemiological*

information from more cases and contacts is needed to determine whether transmission can occur from asymptomatic individuals or during the incubation period on a significant scale'. **[EXHIBIT FMK/50 INQ000224496]**

80. Public Health Wales responded to a query from Dr Rob Orford (Chief Scientific Adviser for Health) on healthcare worker testing on 1 April 2020, regarding asymptomatic transmission thus, referencing a paper that alluded to asymptomatic transmission in care homes. Public Health Wales response to this query was *"Whilst it is true that the NPV of the test is low, it is also true that potentially a high proportion of those testing positive (and therefore likely shedding) are asymptomatic. It is also true that HCW will continue to work whilst symptomatic despite guidance"*. The Guidance referred to was *Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020,* published on the CDC website. [**EXHIBIT FMK/51 INQ000224062, EXHIBIT FMK/52 INQ000224063].**

81. Public Health Wales Incident Directors also wrote a letter of response responding to an email on contact tracing (sent on 1 April 2020) which also references asymptomatic transmission **FMK/101 INQ000469677** **and** **FMK/102 INQ000469679** The paper responded to a BMJ editorial on the use of COVID-19 case identification, testing and contact tracing. The response addressed the two main points in the article which related to a) a policy of just using case identification and contact tracing and b) local health protection response.

82. The paper report highlighted that the editorial referenced a theoretical model which did not take into account actual experience of contact tracing efforts for COVID-19 and also for the H1N1 pandemic in 2009, both of which had demonstrated limitations to the practical use of contact tracing for a generally mild, infectious illness in a country such as the UK.

83. The paper confirmed that Public Health Wales had devoted considerable and rapidly increasing resources to contact tracing, in line with the UK strategy, until the change in case definition signalled the move to the delay phase. However, it had become apparent both through the experience of the Public Health Wales

teams and through the emergence of "sporadic" cases that this was not sufficient to control community spread.

84. In this context the Public Health Wales paper references it becoming apparent that a proportion of cases were presenting with mild or asymptomatic disease, and therefore would not have met the 'UK' case definition at this time, i.e. there was 'incomplete case ascertainment'. Such cases would not/did not enter a contact tracing system and therefore limited the effectiveness of a contact tracing policy alone to control the community spread of infection.

85. In conclusion, the paper recognised the importance of contact tracing in infectious disease and confirmed its use on a daily basis in usual health protection practice in Wales. However, it advised that in pandemic response (including future response) contact tracing was likely to be part of a wider set of measures including behavioural and social interventions.

86. Regarding nosocomial transmission, an email trail from the Welsh Government on the analysis of the genomics of an early hospital outbreak in Aneurin Bevan University Health Board (ABUHB), stated that there was a SAGE discussion about nosocomial transmission on 31 March 2020. **[EXHIBIT FMK/53 INQ000275995, EXHIBIT FMK/54 INQ000275996]** The ABUHB outbreak was reported to Public Health Wales on 15 March 2020 **[EXHIBIT FMK/55 INQ000275997, EXHIBIT FMK/56 INQ000275999]**, CDSC were involved in the initial investigation and the Genomics team did the genomic analysis. This work identified that there could be rapid spread from an initial case in a hospital setting, including to healthcare workers as detailed in a CDSC report. **[EXHIBIT FMK/57** **INQ000310001**

87. On 25 May 2020 the risks to care homes were highlighted by PHE colleagues and these findings communicated to the Public Health Wales IMT and to Welsh Government colleagues. In particular the indication was that, due to the large number of staff and networks of multi-home care providers, care home residents were at considerable risk from COVID-19. It was also suggested that symptom-based screening alone is not sufficient for outbreak control, as the majority of

cases identified by screening were asymptomatic. **[EXHIBIT FMK/37 INQ000191663 as above, EXHIBIT FMK/58 INQ000276001]**

88. Early estimates of the reproductive number (R0) were between 2 and 3 (presented in SPI-M/ SAGE). The importance of this is that it is higher than seasonal influenza. Subsequent variants (see below) had growth advantages indicating even higher R0. Calculating R0 became more difficult in a population with partial immunity and with non-pharmaceutical measures to suppress growth, changes were usually expressed as a growth advantage rather than R0 itself.

89. In November 2020, Public Health Wales subject matter experts contributed to a TAC (Testing TAG) paper on 'Infectivity of COVID-19' which was used to inform the ongoing response in Wales **[EXHIBIT FMK/18 INQ000056318 as above].**

90. In Summary, the paper concluded *"Whereas there remains some uncertainty about the length of infectious period the evidence that the peak of infectivity is in the pre-symptomatic, early symptomatic stages is consistent within the literature reviewed. (High Confidence).*

91. *Infectivity may be prolonged in patients with severe disease or who remain symptomatic but is still likely to be significantly reduced from 14 days after symptom onset. (Medium Confidence)*

92. *In order to reduce transmission within the population effort should be focused on reducing the number of individuals circulating within the community when in their highly infectious period (within 5-7 days of symptom onset or first week of infection). (High Confidence)*

93. *The evidence presented supports the fact that individuals (excluding those that are severely immunocompromised) are highly unlikely to be infectious 14 days after onset of symptoms particularly when symptoms have resolved and they have been afebrile for at least 48 hours. (Very High Confidence)*

ii. Mortality rate and Rate of severe illness

94. Public Health Wales used expert reports and modelling to inform understanding. For example, the Imperial College model for the impact of COVID-19 used estimates from a preprint (later revised and fully published) by Verity et al **[EXHIBIT FMK/59 INQ000236303]**. The steep increase in case-fatality with increasing age was found in earlier reports.

95. Throughout the pandemic response, Public Health Wales only reported on the mortality (which is total deaths, or deaths per 100,000 population) of SARS CoV2 and used this to help describe the epidemiology of SARS CoV2 in Wales. Public Health Wales did not calculate rates e.g. CFR (Case Fatality Rate/Ratio), IFR (infection fatality rate) or CHR/IHR (Hospitalisation rather than Fatality rate) as a good estimate of the actual number of cases and infections was not available e.g. due to under-ascertainment. Any such work would have to be the subject of a post-hoc analysis. Public Health Wales similarly recalls that as the virus mutated and variants of the virus appeared, at the expert variant group meetings studies estimating CFR/IFR/IHR for variants were similarly not presented - exactly for these reasons. Instead, analyses compared successive variants to each other rather than the absolute numbers.

iii. Variants of concern

96. As outlined in paragraph 46 above, representatives from Public Health Wales attended and gained information on variants and mutations of COVID-19 from the UK VTG. Set out below is an overview of each of the following variants including information relating to their severity, transmissibility, challenges and advice given to TAG and/or the Welsh Government regarding the management of each:

    a. **Alpha** - First discussed in VTG in December 2020. **[EXHIBIT FMK/60 INQ000224079, EXHIBIT FMK/61 INQ000224080, EXHIBIT FMK/62 INQ000224081]** Early analyses suggested that transmissibility and severity were greater than the previous virus, and that it had emerged

in Kent. The pattern of PCR test results termed "S gene target failure" enabled identification of cases before sequencing results were available, and the CDSC team ran analyses to estimate the spread of the alpha variant in Wales during December 2020 and January 2021. This work led to the set-up of the variant surveillance team, working with the Public Health Wales Genomics Programme, involving genomic scientists, bioinformaticians and epidemiologists working to report on variants. Public Health Wales TAG representatives advised the group and the Welsh Government using outputs from VTG and these analyses. Public Health Wales' representatives (the lead Consultant Epidemiologist and the Consultant Clinical Scientist, Wales Specialist Virology Centre) were invited to a meeting with the Welsh Government Cabinet to brief them on this variant on 19 December 2020. **[EXHIBIT FMK/63 INQ000191717 and EXHIBIT FMK/64** **INQ000224503**

b. **Delta** - VTG analyses, and international reports, also indicated higher transmissibility and severity for this variant. There was a strong travel component, with the variant emerging in various countries outside the UK and particularly in India, and with concomitant attempts to both restrict travel and to identify imported cases through testing and isolation. A particular challenge was the apparent gaps in the travel restriction system, as there were exceptions to restrictions and testing and sequencing (and communication), which did not always occur in a timely way. One example would be cases in new entrants from high prevalence countries who had travelled to the UK to study. Again, our Consultant Epidemiologist advised TAG and the Welsh Government using VTG material and analyses done by the variant team. The Welsh Government team involved in international travel also had helpful verbal reports on this and other travel-related variants.

c. **Omicron** – The Omicron variant emerged in December 2021. Initial reports were from South Africa and there was uncertainty over the relative severity, with early data being insufficient to analyse this. It was clear early on that the variant was highly transmissible, and these

analyses were repeated in the UK. Again, our Consultant Epidemiologist gave advice obtained from VTG and internal reports to TAG and the Welsh Government colleagues, and was also invited to a meeting involving the CMO regarding the overall risk. **[EXHIBIT FMK/65 INQ000224084, EXHIBIT FMK/66 INQ000224085, EXHIBIT FMK/67 INQ000224086, EXHIBIT FMK/68 INQ000054364, EXHIBIT FMK/69 INQ000276004]** In response to a request for advice from the Welsh Government, on 14 December 2021, Public Health Wales reiterated the advice provided in an Advice Note 23 on non-pharmaceutical interventions in the event of significant transmission, phasing in a further lockdown. **[EXHIBIT FMK/70 INQ000056305]** This advice was provided in light of the likely very high transmissibility but uncertainty in severity. A lockdown did not occur, and the resulting peak was higher than at any time previously in the pandemic. Fortunately, the severity was lower than previous variants, and this, combined with a highly vaccinated population, meant that the overall impact was less severe than expected.

97. We have no additional information to offer on the possibility of re-infection other than the information provided on infectivity in paragraphs 73-93.

98. We have no further information to provide on increased risks to workers in healthcare settings other than the information provided in paragraphs 54 and 86.

99. As noted in paragraph 23 above, Public Health Wales was a member of the UK COVID-19 IPC guidance cell which produced the IPC guidance that was followed in Wales and developed the guidance based on the WHO position and best evidence we had at the time of the transmission routes. The UK COVID-19 IPC guidance was regularly reviewed and updated throughout the pandemic and all versions are available on the UK Government archive. **[EXHIBIT FMK/21 INQ000074966 as above]**

100. The Aerosol Generating Procedures (AGP) list was included in the UK COVID-19 IPC guidance developed by the guidance cell. Public Health Wales advised and

contributed to the development of the AGP list as part of the UK COVID-19 IPC guidance cell. Public Health Wales did not produce any separate guidance or AGP list until post May 2022 when the revised AGP list produced by NHS England was incorporated into our Infection Prevention and Control Measures for SARS-CoV-2 (COVID-19) in Health and Care Settings - WALES. Guidance document published end of May 2022. **[EXHIBIT FMK/71 INQ000276005]**

Impact of Public Health Messaging on healthcare systems

101. The measures introduced in Wales to control the COVID-19 pandemic were as a consequence of the Welsh Government strategies. Public messaging on policy areas and regulations was led by the Welsh Government and Public Health Wales acted as one of the NHS trusted voices to convey this messaging. Public Health Wales drafted and issued regular messaging throughout the pandemic about public health advice, and this advice was aligned to the regulations and policies in place at the time. It was the responsibility of the Public Health Wales Communications Team to work with internal experts to draft and approve all public health messaging issued by Public Health Wales. Public Health Wales worked with partners, including the Welsh Government, Local Authorities, and the NHS Wales health boards to make sure our messaging aligned to the policies that were in place at the time.

102. Public Health Wales' involvement was also largely around providing situational awareness, in terms of what was happening with respect to COVID-19 at various time points, as well as leading on messaging in relation to protective behaviours. We responded to a large number of media enquiries, published a statement on our website on a daily basis providing the public with public health advice, numbers of new cases, and daily fatalities as reported to our surveillance systems. The daily statement began on 22 January 2020 and ceased on 13 May 2021. The daily dashboard began on 6 April 2020 and moved to a weekly dashboard on 26 May 2022. Public Health Wales' communications team worked closely with the Welsh Government communication teams to agree key public messaging. Public Health Wales worked closely with the Welsh Government, wider NHS Wales and Local

Government to ensure that all parties were delivering consistent public health messages.

103. There was a recognition that by asking everyone to 'stay at home to protect the NHS and save lives' there would be an impact on planned and emergency care. However, there was no systematic assessment of what that impact might look like. Public Health Wales did not focus on that aspect during the early phases of the response as the primary objective was to control the spread of COVID-19. However, through a series of Health Impact Assessments (HIAs), Public Health Wales found the following:

a. Whilst the restrictions were in place, many services that remained open and operational saw a fall in utilisation compared to before the pandemic. For example, the number of visits to Emergency Departments (ED) in Wales fell significantly; attendances reduced from 76,912 in January 2020 to 57,603 in March 2020 (StatsWales (2020a) Number of attendances in NHS Wales accident and emergency departments by age band, sex and site). The number of ED attendances in March 2020 was significantly lower than the number of attendances reported in the same month of 2019 (87,374) (StatsWales (2020a) Number of attendances in NHS Wales accident and emergency departments by age band, sex and site). [**EXHIBIT FMK/72 INQ000056307, EXHIBIT FMK/73 INQ000276006].**

b. It was reported that from 1 March 2020 until May 2020 the average number of calls to NHS Direct and 111 for all conditions was higher than in the same period in 2019 (Public Health Wales (2020a) Coronavirus (COVID-19) data dashboard). **[EXHIBIT FMK/74 INQ000276007]**

104. The decrease and increase referred to in paragraphs 103a and 103b. were attributed to a number of factors, including fear of using services due to the risk of contracting COVID-19 (interviews with stakeholders in the HIA). From interviews with key stakeholders we understood that some patient-groups, for example, those with chronic health conditions, were not accessing or attending key appointments

out of fear of exposure to and increased risk from the virus. **[EXHIBIT FMK/72 INQ000056307 as above]**

105. Except for the information contained in Paragraph 103a and 103b above, Public Health Wales is not aware of any other specific evidence to suggest that the 'stay at home, protect the NHS, save lives' messaging contributed to patients in need of treatment delaying or avoiding seeking care.

106. During the first set of control measures in March 2020, there was a planned stoppage of elective and routine care. This in itself did not influence public health messaging at the time.

Shielding, the Clinically Extremely Vulnerable and the Clinically Vulnerable

107. Public Health Wales did not have any involvement in the development of guidance in Wales around "shielding" in order to protect clinically vulnerable people. This was led by the Welsh Government and coordinated through inputs from clinical teams across the health boards.

Data / analysis of the impact of COVID-19

108. Public Health Wales carried out surveillance on the deaths related to COVID-19 in two ways. Firstly, an active system of clinicians notifying deaths in laboratory confirmed cases of COVID-19, where there was clinical suspicion that COVID-19 was a cause of death. This was termed "Rapid mortality surveillance". Secondly, a passive surveillance system utilising data provided by the Office for National Statistics (ONS) on ICD10 coded causes of deaths from the mandatory UK deaths registrations process. This can be termed "ONS deaths surveillance". Case definitions remained consistent throughout the period and a surveillance quality assurance group was set up with Medical Directors of health boards, chaired by Public Health Wales' Strategic Lead Director for COVID-19 and the Welsh Government Chief Statistician, with a fortnightly meeting cycle. The purpose of this assurance group was for Public Health Wales and Digital Health and Care Wales (DHCW) to feedback to the Welsh Government and health boards on any issues

of data quality and completeness, and for health board Medical Directors to feedback on any local issues that might impact on data quality and completeness from their clinicians. **[EXHIBIT FMK/75 INQ000276008]**

Rapid Mortality Surveillance

109. The aim of this surveillance system was to provide a timely indicator of trends in COVID-19 mortality. In the very early stages of the pandemic, this system used email notifications from clinicians. Throughout April 2020 Public Health Wales, DHCW, the Welsh Government and health boards worked together to construct an electronic reporting form (eForm) in the Welsh Clinical Portal. **[EXHIBIT FMK/76 INQ000276009]** On 23 April 2020, Andrew Goodall (Director General Health and Social Services/ NHS Wales Chief Executive) wrote to all health boards to formally ask health boards to use this eForm for notification of deaths in patients hospitalised with laboratory confirmed COVID-19 (within 28 days prior to death) where there was clinical suspicion that COVID-19 was a cause of death. Health boards were also asked to report suspected COVID-19 deaths in care home residents using the same criteria as hospitalised patients.

110. The timeliness of reporting to this system was good, generally with a lag of less than five days after death before data became available. Aneurin Bevan University Health Board set up their own version of the electronic form (as the local system used is not the Welsh Clinical Portal), with data streamed automatically to the central repository each day. Cwm Taf Morgannwg University Health Board provided data using a different method, with datasets emailed securely to the central surveillance team inbox daily. Reporting forms also included questions on comorbidities, ethnicity, and healthcare worker status.

ONS mortality surveillance

111. The aim of this surveillance, set up in May 2020, was to provide a comprehensive measure of the COVID-19 mortality burden in all settings (including deaths in the community). Although this surveillance measure was the most comprehensive, it was less timely than the Rapid Mortality Surveillance set-up, with an approximate

10-to-15-day lag after someone had died before data was available for surveillance:

a. Purpose: To provide a comprehensive indication of the burden of COVID-19 mortality in Wales
b. Case definition: Registered deaths in Welsh residents where COVID-19 (suspected or confirmed) was mentioned on the death certificate as a cause or contributory factor. This included deaths in all settings and deaths where there was clinical suspicion that COVID-19 contributed, even in the absence of a laboratory test for SARS-CoV-2.
c. Reporting mechanism: ONS provided patient level access to death certificates on a daily basis to Public Health Wales, via the DHCW data warehouse. Data was analysed and reported on a weekly basis through the public-facing surveillance dashboard, with breakdowns provided by health board, setting of death, age-group, sex, and quintile of socio-economic deprivation.

Data relating to the period 1 March 2020 - and 28 June 2022

112. Based on a data file saved on 9 August 2023, there were 41,482 admissions with a positive SARS-CoV-2 sample between 1 March 2020 and 28 June 2022 inclusive (based on sample data). Of these, 4,025 were "probable hospital onset", defined as having their first positive sample 8-14 days after admission date, and 10,060 were definite hospital onset, defined as having their first positive sample date more than 14 days after admission. The total of 'probable' and 'definite' was 14,085, 33.9% of the total COVID-19 episodes identified in hospital admissions (14,085/41,482).

113. The % of hospitalized COVID-19 episodes* where the sample was hospital onset** by wave*** is as follows:

wave	Hospital onset	Hospital onset %	Total
wave 1	1,926	40	4,772
wave 2	5,387	35	15,470
wave 3	1,539	18	8,583
wave 4	911	33	2,720

*Sample taken during hospital inpatient stay or within 28 days prior to admission

** Sample taken more than 7 days into a hospital inpatient stay (day of admission=day 1)

***Wave periods:

Wave 1 – 27/02/2020 to 26/07/2020

Wave 2 – 27/07/2020 to 16/05/2021

Wave 3 – 17/05/2021 to 19/12/2021

Wave 4 – 20/12/2021 to 16/01/2022

114. Hospital-acquired infections are estimated based on the relative timing of the sample date and admission to hospital. Rather than hospital-acquired, the term "hospital onset" is used, given the uncertainty in attribution. The definitions used are:

- **Hospital onset**: Cases swabbed in a secondary care location on day 8 or more after their admission to the hospital (where day of admission is day 1).

- **Community onset hospital admission**: Community onset cases admitted to hospital in the 28 days following their positive swab date.

115. As the definition is based on timing of sample, rather than absolute knowledge of the source of acquisition, these definitions could both under- and over-estimate the number of cases depending on the circumstances.

116. Earlier in the pandemic, there was less testing of patients already admitted to hospital, with testing focusing on those admitted with new symptoms. This would

lead to an under-estimation of hospital onset cases. Later on, regular testing of inpatients occurred, which would also have ascertained asymptomatic cases. This would have increased the ascertainment of hospital onset cases.

117. Where the testing of cases with new symptoms was delayed (for example, if someone developed symptoms two days after admission and was tested at eight days), this could lead to over-estimation of hospital onset cases, classifying a community onset case as probable hospital onset.

118. Hospital onset cases could be missed if they occurred after discharge, as these were not identified.

119. Based on ONS data stored by Public Health Wales, as of June 2022, the total number of COVID-19 deaths with 'hospital in Wales' entered as location was 7,685. The definitions are described in paragraph 114 above. (**[EXHIBIT FMK/77 INQ000276010]** shows how these varied over the time period requested.)

120. Of the 7,747 COVID-19 deaths* to end of June 2022, where location of death was a hospital in Wales, 32% (2,501) had a hospital onset** COVID-19 sample in the 92 days prior to date of death. (*Based on ICD10 codes: U07.1, U07.2, U09.9, U10.9, in the ONS death certification data and ** sample taken >7 days into a hospital stay, where day of admission=day 1).

121. A paper from 13 April 2022 calculated all-cause mortality for community onset hospital admissions and hospital onset COVID-19 cases, for four wave periods between 27 February 2020 and 16 January 2022. For clarity, all-cause mortality proportion is the proportion or percentage of all cases (hospital onset in this case) that died of any cause within 28 days post positive SARS-CoV-2 PCR test. **[EXHIBIT FMK/78 INQ000276011].** These were defined and classified as per the above paragraphs. There were 2,408 deaths among the hospital onset cases, an all-cause mortality proportion of 25%.

122. There were 8,414 community onset cases, hospital admitted cases and 9,454 hospital onset cases. There were 1,838 deaths among the non-hospital onset

cases, an all-cause mortality proportion of 22%. **[EXHIBIT FMK/78 INQ000276011 as above]**

123. Further definitions used in this analysis are below:

- Mortality: 28-day all-cause mortality – death due to any cause within 28 days of a positive SARS-CoV-2 test.
- Wave periods used:
  - Wave 1 – 27/02/2020 – 26/07/2020
  - Wave 2 – 27/07/2020 – 16/05/2021
  - Wave 3 – 17/05/2021 – 19/12/2021
  - Wave 4 – 20/12/2021 - 16/01/2022 (only cases where 28 days post positive specimen had elapsed at date of data extract were included). **[EXHIBIT FMK/78 INQ000276011 as above]**

124. The analyses use all-cause mortality, rather than mortality due to COVID-19, so are likely to be an over-estimate of the impact of COVID-19 on these cases. **[EXHIBIT FMK/78 INQ000276011 as above]**

125. The all-cause mortality proportions for hospital onset cases tended to reduce over the course of the pandemic, being 33.5% in wave 1 and 12.7% in wave 4. This trend was also seen in non-hospital onset cases (30% in wave 1, 12% in wave 4). **[EXHIBIT FMK/78 INQ000276011 as above]**

126. We do not hold data in respect of the number of staff within healthcare settings in Wales recorded as having died of COVID-19. This is because the occupation of cases was not recorded on most laboratory reports or rapid death reports.

127. We do not hold data to confirm the total number of healthcare staff in Wales recorded as having died of COVID-19 during the relevant period, including the proportion likely to have contracted the infection in the workplace.

128. We do not know the number of excess deaths within healthcare settings in Wales during the relevant period as this is not something that we routinely calculate or monitor in Public Health Wales.

129. We do not have an analysis of how the above figures changed during the relevant period (apart from ONS hospital-located deaths, described above). Broadly, the number of deaths due to COVID-19 increased during each wave of infection, but after the introduction of vaccination the proportion of deaths reduced for each wave. A figure from our weekly COVID-19 report **[EXHIBIT FMK/79 INQ000276012]** shows the time series of deaths recorded by the ONS, illustrating the reduced number of deaths over the course of the pandemic.

Official cancer statistics in Wales based on Public Health Wales' Welsh Cancer Intelligence and Surveillance Unit (WCISU) of population-based cancer registry and ONS mortality data

130. The latest publicly available official/statutory statistics on cancer incidence, mortality and survival by the **Welsh Cancer Intelligence and Surveillance Unit (WCISU)** can be found in the cancer analysis tool. **[EXHIBIT FMK/80 INQ000276013, EXHIBIT FMK/81 INQ000276014, EXHIBIT FMK/82 INQ000276015, EXHIBIT FMK/83 INQ000276016, EXHIBIT FMK/84 INQ000276017, EXHIBIT FMK/85 INQ000276018, EXHIBIT FMK/86 INQ000276019, EXHIBIT FMK/87 INQ000276020, EXHIBIT FMK/88 INQ000276021]**

131. Annual official cancer mortality statistics for Wales are available within the tool up to and including deaths due to cancer during 2021. The statistics have been analysed by detailed cancer type (including colorectal cancer), sex, health board and local authority of area of residence, area deprivation index quintile. Comparisons with cancer mortality in other UK countries/jurisdictions are also included.

132. Net one-year and net five-year population-based cancer survival estimates in Wales are also available within the tool, based on five year rolling periods of diagnosis up to and including 2019. These statistics are broken down by age, sex, health board of residence, and stage at diagnosis. The analysis includes

unstandardised, age-standardised (to account for differences in age structure) and age-specific estimates. Net survival (%) is an estimate of survival where the effect of background population mortality rates on survival has been removed. As background population mortality rates, presented in a life table, are a good approximation to the non-cancer related death rates among cancer patients, the net survival represents the survival of adult cancer patients if they could only die from cancer-related causes. Net survival is suitable for comparison of survival between different time periods and populations, as the confounding effect of noncancer death rates is removed. Age standardising the data allows comparison between geographies and over time.

133. Annual official cancer incidence rates in Wales are also available in the tool, up to and including cases in 2020 (for people with breast, lung, colorectal, prostate, and ovarian cancers). Data for all cancers excluding non-melanoma skin cancer will be published in September 2023. The statistics have been analysed by cancer type (including colorectal cancer), sex, health board and local authority of area of residence, area deprivation index quintile, and stage at diagnosis. Comparison with the cancer incidence in other UK countries/jurisdictions is also included. Furthermore, for these five cancers, monthly incidence rates during 2020 were also published and compared with monthly incidence pre-pandemic (2018-2019).

Colorectal Cancer Survival Rates and Mortality Rates

134. Specific survival figures for colorectal cancer for these same time periods are contained in the tool. The survival information for colorectal cancer is shown alongside other cancer, noting that colorectal cancer is one of the most common cancers in Wales. The next official statistics on cancer survival in Wales for diagnosis years 2002-2021 are due for publication in November 2024.

135. Extraction from the tool shows our latest official statistics for one year age-standardised net survival (%) for colorectal cancer (persons aged 15-99, Wales) first diagnosed in 2014-2020 is in the table, below:

Year of diagnosis	Net one year age-standardised cancer survival (%)	Lower 95% confidence interval	Upper 95% confidence interval
2014	78.2	76.4	79.9
2015	78.0	76.2	79.8
2016	76.7	74.9	78.5
2017	78.9	77.2	80.7
2018	77.5	75.7	79.3
2019	77.1	75.4	78.9
2020	73.5	71.5	75.4

136. From the table it can be seen that there was no significant difference between the variation in survival each year between 2014 to 2019. However, the survival in 2020 (73.5%) was significantly lower than in 2019 (77.1%).

137. Public Health Wales also provides a narrative interpretation in the form of key messages.

138. The summary of the latest survival official statistics contains extracts relating to colorectal cancer. Examples include:

    a. In 2016-2020, rectal cancer presented the largest deprivation gap in five-year unstandardised net survival; 47.2% in the most deprived areas compared with 70.1% in the least deprived areas. It also showed one of the largest increases in the last decade going from a gap of 12.8 percentage points in 2006-2010 to 22.9 percentage points in 2016-2020.

    b. For stage 1 bowel (colorectal) cancer in 2016-2020, unstandardised net survival is high at both one-year (98.5%) and five-years (94.9%) after diagnosis. However, survival drops as stage at diagnosis increases, with a large difference seen for stage 4 cancer. One-year survival for stage 4 bowel (colorectal) cancer is 38.9% while five-year survival is only 8.8%.

c. For people diagnosed in 2016-2020, one-year and five-year survival for bowel (colorectal) and female breast cancer are broadly comparable to England.

139. Official statistics use complex methods, and the small size of Wales population often requires the grouping of several years' worth of data for meaningful analysis.

140. The Cancer Reporting tool also contains official statistics on mortality by cancer type amongst the population of Wales. The statistics are published for the years of death 2002 to 2022. The mortality information for colorectal cancer is again shown alongside other cancer types. There is no appreciable difference from year to year in the colorectal cancer mortality rates. Monthly cancer mortality statistics are only available for all cancers combined and are not broken down to colorectal cancer or other cancer types.

	European age-standardised colorectal cancer mortality rate per 100,000 population (Wales, persons, all ages)	Lower 95%CI	Upper 95%CI
2014	30.9	28.9	33.0
2015	31.2	29.2	33.3
2016	29.6	27.7	31.7
2017	29.5	27.6	31.5
2018	29.3	27.4	31.3
2019	29.7	27.8	31.7
2020	29.7	27.9	31.7
2021	30.4	28.6	32.5
2022	29.8	28.0	31.8

141. The key messages referenced in paragraph 138 above also contain extracts relating to colorectal cancer. Examples include:

a. The gap in bowel cancer mortality rates between the most and least deprived areas in Wales rapidly decreased in 2022. The rate was 57.5% higher in the most deprived areas in 2021 compared to 11.8% in 2022. Between 2019 and 2021, mortality rates noticeably increased for men in the most deprived areas. The reasons for this are unclear, and we will continue to monitor this for emerging

trends. The general pattern for many other cancers during the pandemic years was a reduction in mortality rates for both sexes. A sharp decrease in rates for men in the most deprived areas did occur in 2022 in what appears to be a return towards pre-pandemic levels.

142. These official statistics are based on the WCISU whole population-based cancer registry database. This contains verified and high-quality information on every case of cancer amongst the resident population of Wales, regardless of whether or not they are diagnosed or treated in England, or elsewhere. Cases are identified and verified from multiple sources of NHS data, private hospitals and ONS mortality data using some degree of automation and with the expertise of highly trained cancer registration officers in a confidential and secure digital environment. The rules used to define dates of diagnosis and stage at diagnosis, for example, are based on international guidelines. Therefore, in theory, registry data accurately captures all cases of cancer in a population with considerable relevant information about each case, which means registry data across the world can be compared to each other. This is why there is a lag between each year of diagnosis, and the data being ready, analysed and published as statistics.

Rapid cancer data during the pandemic

143. WCISU leadership realised the need to monitor the effect of the pandemic – and its mitigations – on actual and ascertained cancer incidence, survival, and mortality. More rapid, but less complete and accurate, data were therefore required for this purpose. New innovative methods to utilise registry data sources, notably cancer pathology samples, were used to monitor incidence in more real time, which led to the development of a 'rapid cancer data set' within Swansea University's Secure Anonymised Information Linkage (SAIL) Databank (documented in paragraphs 116-121). These data sources have revealed the impact of COVID on new cancer diagnoses and the extent of recovery since the pandemic.

144. WCISU mobilised and led a multi-agency research team (with expertise and input from HDR-UK DATACAN, Swansea University, University of Oxford, Swansea Bay

University Health Board, and the Cancer Research UK analysis team) utilising the secure data environment of the SAIL Databank Trusted Research Environment.

145. Various new data relating to cancer were imported securely into the SAIL Databank with the assistance of WCISU and DHCW. From the subsequent data linkage several analyses were possible and published. **[EXHIBIT FMK/89 INQ000328592]**

146. Research is ongoing utilising the novel linked cancer data set (the Rapid Cancer Diagnosis Dataset) created by WCISU in the SAIL Databank assessing incidence and survival to the end of 2021, and then to the end of 2022. Other relevant research was conducted across teams within Public Health Wales and with other collaborators **[EXHIBIT FMK/90 INQ000320574 EXHIBIT FMK/91 INQ000328643].**

147. WCISU worked with colleagues across Public Health Wales to contribute to and assist in the development of the rapid cancer data (based on pathology sample results) into the initial internal Public Health Wales Rapid Overview Dashboard.

148. As part of the scheduled official/experimental statistics programme, rapid pathology data indicating primary cancer cases was published on 6 September 2023 **[EXHIBIT FMK/109].** This included monthly diagnoses from 2018 through to May 2023, and it will be updated quarterly. The key messages from this publication included and acknowledgment that:

a. the number of pathology samples indicating prostate cancer were persistently lower than 2019 pre-pandemic levels
b. Pathology samples for lung cancer show a similar picture.
c. For bowel and breast cancer, diagnoses were returning to pre-pandemic levels.

149. Official (registry-based) statistics relating to cancer incidence, survival, and mortality (using ONS data) are published annually. The new rapid pathology data is reported quarterly.

150. Key policy and decision makers were informed throughout the planning, emerging of key findings and publication of the above cancer epidemiology outputs, for example, through presentations at:

a. NHS Wales Cancer Implementation Group / Wales Cancer Network Prioritisation Workshop – 25 June 2021 **[EXHIBIT FMK/92 INQ000276025, EXHIBIT FMK/93** **INQ000328572**
b. Welsh Government COVID-19 Technical Advisory Group – 02 July 2021 **[Exhibit FMK/94 INQ000066435]**
c. NHS Wales Cancer Implementation Group meeting 23 July 2021 **[EXHIBIT FMK/95 INQ000276028]**
d. Wales COVID-19 Evidence Centre 18 October 2021 and 15 February 2021 **[EXHIBIT FMK/96 INQ000276029 and EXHIBIT FMK/97 INQ000276031]**

Health inequalities

151. Public Health Wales undertook analyses of mortality during the first wave and examined if mortality was higher in Black, Asian and Minority Ethnic (BAME) groups compared to the 'White' ethnic group. This was done using a software called "onomap" which is a name checking tool that assigns ethnicity based on common names. The study concluded that ethnic minorities are disproportionately affected by COVID-19. During the first COVID-19 epidemic wave in Wales, although ethnic minority populations were less likely to be tested and less likely to be hospitalised, those that did attend hospital were younger and more likely to be admitted to intensive care. Primary, secondary and tertiary COVID-19 prevention should target ethnic minority communities in Wales [**EXHIBIT FMK/98 INQ000276032**]

152. Public Health Wales did not specifically carry out any analysis of the practices within health care settings and their impact on outcomes or health inequalities. As such Public Health Wales has not identified any themes or concerns arising from practices within healthcare settings.

153. Public Health Wales was also involved in the First Minister's BAME advisory group. As part of the work of this group there was a risk assessment tool developed, at pace, by Professor K Singhal to help NHS employers undertake a risk assessment of staff and those deemed at risk were offered alternative duties. Although Public Health Wales did not contribute to the development of the tool, it was aware of the existence of such a tool.

Lessons learned

154. Public Health Wales did not generally commission or participate in specific reviews in relation to healthcare services delivered by Health Boards and other Trusts in Wales.

155. However, Public Health Wales did have involvement in reviews and improvement processes (including lessons learnt), in relation to the delivery of its own services. This can be illustrated using examples relating to the delivery of Public Health Wales screening services and the role of the HARP team in supporting NHS Wales in learning lessons and addressing issues relating to nosocomial infection:

NHS Wales screening Services

a. Internal Audit process and report relating to the reactivation of the national screening services **[EXHIBIT FMK/99 INQ000276033]**
b. An external Wales Audit Office process also relating to the recovery of screening programmes, which is currently ongoing.

HARP team contribution to healthcare premises outbreak management including lessons learnt

156. The first outbreak of COVID-19 in a healthcare setting in Wales occurred in the Aneurin Bevan Health Board in early March 2020. Public Health Wales was part of the Outbreak Management Team and produced a report to learn lessons from this first outbreak [**EXHIBIT FMK/100 INQ000068114]**

157. The main themes of the lessons identified included:

a. **Suitability of the Communicable Disease Outbreak Plan for Covid-19 incident response.** The use of the Communicable Disease Outbreak Plan (CDOP) for Wales was confirmed as remaining appropriate for COVID-19 incidents and outbreaks, but with agreement on response leadership and communications arrangements depending on the nature of any incident (e.g. by Public Health Wales or local TTP team).
b. **Wider Context of pandemic response**. COVID-19 outbreak response needed to be particularly cognisant of wider context e.g. specific Government policy, NPIs and political and public interest
c. **Partner organisation familiarisation**. Some partners are not routinely engaged in Health Protection response. Senior officials of **all Category 1 organisations** (Civil Contingencies Act 2004) were asked to familiarise themselves with the CDOP (dated 13 July 2020) which contained specific reference to LRFs/SCGs (Civil Contingency arrangements)
d. **Early Communication.** The importance of early communication between Outbreak Control Team chair, LRF co-ordinator and with local Communities was emphasized.

158. Public Health Wales also produced a report on nosocomial COVID-19 later in the pandemic **(EXHIBIT FMK/78 INQ000276011 as above).** There are no lessons learned outlined in the paper, however the paper was shared with IPC teams across Wales and also with the NHS Wales Delivery Unit which was conducting a large review of nosocomial COVID-19 across all the Health Boards of Wales. The paper contributed to our knowledge and understanding of the issues relevant to spread of COVID in healthcare settings and by sharing the report improvements could be made at the health board level.

159. In summary, the role of the HARP programme in regard to HCAI is to collect and collate surveillance data on HCAI across Wales. HARP then feedback the surveillance data on a monthly basis via a dashboard. During the COVID-19 pandemic, HARP also developed a COVID-19 nosocomial infection dashboard. In addition to the regular feedback of surveillance data we offer support in the

investigation of outbreaks of infection through our healthcare epidemiologist network with embedded healthcare epidemiologists across our Health Boards and Trusts supported by CDSC Wales and the HARP programme. We also provide support from our IPC specialist team within the HARP programme developing guidance and supporting IPC teams across Wales with preventative measures, training and outbreak investigation. The Antimicrobial Stewardship team supports health boards and Trusts in Wales with antimicrobial guidance, tools and resources to improve the prescribing of antimicrobials with the aim of reducing antimicrobial resistance.

Statement of Truth

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

Signed: Personal Data

Dated: 28 March 2024