I, Professor Sir Michael McBride, will say as follows:

INTRODUCTION

1. I make this statement in response to the request from the UK Covid-19 Public Inquiry (the Inquiry), dated 21st November 2022, under Rule 9 of the Inquiry Rules 2006 (SI 2006/1838), requiring me, as Chief Medical Officer (CMO) for Northern Ireland to provide the Inquiry with a witness statement in respect of specified matters relating to Module 2C.

2. The Inquiry's request is specifically in relation to 'Module 2C' and the Inquiry asked that my statement should be in a narrative style with free-flowing text that will make sense to the reader without sight of the Inquiry's request letter. To assist the reader, a list of acronyms and abbreviations and their meaning is included at the end of this statement. I have arranged my statement into sections, with sub-headings within each section, to make the content of my statement easier to navigate and therefore as accessible as possible to any reader. In preparing my statement I sought input from Professor Ian Young, Chief Scientific Advisor (CSA), in relation to the section on modelling given his particular expertise.

3. The Covid-19 pandemic has been of a scale and severity not experienced since the influenza pandemic of 1918 to 1919 and its direct and indirect consequences have been profound. I am conscious of the significant impact which Covid-19 has had on individuals, families and communities across Northern Ireland (NI); the many lives lost, each a tragedy; those living with the direct and indirect consequences of the pandemic including those with non-Covid-19 conditions whose diagnosis and treatment was delayed, and whose clinical care was adversely affected potentially resulting in a poorer outcome. The full impact on the people of Northern Ireland, their lives and livelihoods, may not become clear for some years to come and there are many people in our community who continue to be affected. I can only offer those who have lost loved ones my sincerest sympathy. It is undoubtedly the case that were it not for the altruism and action of the people of Northern Ireland and across these islands to protect each other over a prolonged period that the consequences would have been much worse. It is my sincere hope that through this Inquiry learning might be identified that ensures that should the need arise again we are as prepared as possible.

4. It would also be remiss of me if I did not acknowledge and offer my sincerest thanks for the dedication and efforts of staff working across the Health and Social Care (HSC) system, public health and scientific colleagues whose collective efforts undoubtedly saved many lives. This includes Health Care Professionals and ancillary staff working in hospitals, care homes and other settings. It also includes those less publicly visible staff who performed the

important roles necessary to keep services operating. This collaborative effort was also characterised by the work with other government departments for example with the Department for Communities and the Department of Education and in the coordination role of colleagues in The Executive Office (TEO) in Northern Ireland and the collective endeavour across the United Kingdom (UK) and the Republic of Ireland (RoI).

5. The Inquiry has also asked how my role and responsibilities changed during the pandemic. I have therefore focused on my role and that of the Chief Medical Officer Group and how that changed over time. While as requested I have referred to individuals who provided key support to myself, and or provided leadership on particular aspects of the response, it is important to note that the work undertaken during the pandemic represented the collective efforts of many policy and professional colleagues across the Department and wider Health and Social Care (HSC) system, and other external partner organisations. Throughout this time my responsibilities remained that of providing professional and public health advice to the Health Minister, the Department of Health (the Department or DoH), respective policy and professional colleagues, and other government departments. I was also responsible for leading and coordinating the public health response, while working closing with Public Health Agency (PHA) colleagues.

6. This statement primarily covers a period of almost two and a half years between January 2020 and March 2022. Given the sheer pace and intensity of the work during this time my statement reflects my recollection of events to the best of my ability, however I reserve the right to produce an addendum at a later stage, if required and were this would be of assistance to the Inquiry. Emergency response preparations in the years prior to January 2020 are the focus of Module 1 of the Inquiry. I have, therefore, made only limited references to that period in this statement. Please also note that I have provided significant input to inform the Department's written statement in response to the Module 2c Rule 9 request (reference MO2C-DOH-01) and, where possible, have not repeated that input within this statement.

7. My statement covers an evolving situation over the time period in question from the early months following the reports of the outbreak in China, when there was still a hope that the outbreak might be contained or be of limited duration. I have sought to reflect the great uncertainty and consequences, particularly early in the pandemic. This was a time of significant public concern, when our path out of the pandemic through the use of medical countermeasures, such as vaccines and drugs treatments was far from clear. This was also a time when the public had been asked to take actions that impacted across all aspects of their lives and livelihoods in a profound manner.

8. In my statement I have sought to provide:

   - Firstly, an overview, in which I describe my roles at the beginning of the pandemic. I also describe my understanding and assessment of themes and topics which provide a context to my evidence covering the progress of the pandemic and the response in Northern Ireland. It also explains the context in which I, as CMO, provided advice to the Health Minister and in turn Executive Ministers during the pandemic.

   - Secondly, a description of the rapid development and dissemination of evidence to address important clinical, operational and policy questions as described in chapter 1 of the UK CMO "Technical report on the Covid-19 pandemic in the UK" pages 20 to 85 [Exhibit MM/1 - INQ000217254].

9. My statement encompasses what is often referred to as the first 'wave' of the outbreak, which, in Northern Ireland, started in early March 2020, peaking in early/mid-April, and falling to a low level of population infection in July 2020. During this time there was a growing recognition that the impact and duration of the Covid-19 pandemic was likely to be more long-term. Consequently, there was a growing debate amongst decision makers about the need to balance the health-related aspects of the response to Covid-19 against wider health, social, societal and economic impacts, including the impact on the education of children and young people.

10. In order to reflect the evolving nature of the response I have also covered in greater detail some aspects of the period from late August 2020 to June 2021 which encompassed the second 'wave' of the pandemic. During this period there was more of an ebb and flow to population infection levels and more robust Covid-19 specific scientific evidence was available. In the period from July 2021 to March 2022, and the subsequent third 'wave' of the pandemic, the Covid-19 vaccination roll-out had already made significant progress. Therefore, during the third wave there was an increasing focus on the response to Covid-19 in the context of the availability of both vaccines and therapeutics which provided effective responses to the virus. At that point, the increasing level of population immunity conferred by vaccination and previous infection, increasingly contributed to a reduction in health consequences, although these remained significant.

11. While I have provided some initial observations, I will later submit my personal reflections on the pandemic with a particular focus on learning for the future. As referenced above, I have also worked closely with Chief Medical Officers and Deputy Chief Medical Officers across the

United Kingdom to co-author a "Technical report on the Covid-19 Pandemic in the UK" (UK CMO Technical report) [Exhibit MM/1 - INQ000217254], published on 1st December 2022. This technical report has been written to share information and learning with our CMO successors who may be faced with the challenge of responding to a future pandemic. It contains information which is relevant to my evidence, and I refer to this report in the course of my statement.

OVERVIEW

12. This part of my statement contains information which provides context for and should aid understanding of my evidence and my role during the pandemic. It is divided into 15 sections as follows: my career history and professional experience (paragraphs 13 to 14); Chief Medical Officer for Northern Ireland routine roles and responsibilities (paragraphs 15 to 33); Chief Medical Officer for Northern Ireland roles and responsibilities during the pandemic (paragraphs 34 to 66); decision making (paragraphs 67 to 108); policy and delivery structures in relation to the response to Covid-19 (paragraphs 109 to 122); scientific and public health evidence (paragraphs 123 to 142); Non-Pharmaceutical Interventions (paragraphs 143 to 154); lockdown, circuit breakers and local restrictions (paragraphs 155 to 164); schools (paragraphs 165 to 172); communication, information sharing, openness and transparency (paragraphs 173 to 180); public engagement (paragraphs 181 to 182); disparities in the pandemic (paragraphs 183 to 204); UK-wide approach (paragraph 205 to 210); international cooperation (paragraphs 211 to 222); immediate approach to learning in the pandemic (paragraph 223-229); and learning and reflections (paragraphs 230 to 251).

CAREER HISTORY AND PROFESSIONAL EXPERIENCE

13. I have been the Chief Medical Officer (CMO) for Northern Ireland from September 2006. In 1986 I graduated from Queen's University Belfast with a MB BCh BAO medical degree, with distinction in Medicine and Surgery. In 1991, I attained a Research Fellowship at St Mary's Hospital Medical School and Imperial College London, conducting research into new drug treatments for HIV (Human Immunodeficiency Virus. From 1994 to 2006 I worked as an HIV Consultant within the Genitourinary Medicine service at the Royal Group Hospitals Trust and was appointed Medical Director of the Royal Group of Hospitals in August 2002. In September 2006, I was appointed as Northern Ireland's Chief Medical Officer. I was appointed acting Permanent Secretary of the Department of Health and Chief Executive of Northern Ireland Health and Social Care between March and August 2009 at the request of the then Minister. In November 2014, at the request of the then Health Minister, I was appointed as Chief Executive of Belfast Health and Social Care Trust, serving until February 2017 while continuing in the role of CMO. As such I have significant policy and healthcare leadership and management experience, this included leading and coordinating the health response to the 2009 H1N1 pandemic in Northern Ireland. It was undoubtedly the case that my previous experience in the H1N1 pandemic was of benefit in the collective response of the Department and that of the wider HSC system.

14. I am a Fellow of the Royal College of Physicians of London, and a Fellow of the Royal College of Physicians of Ireland. I have been awarded an Honorary Senior Fellowship by the Faculty of Medical Leadership and Management (FMLM) for my contribution to healthcare. In July 2021 I was made an honorary Professor of Practice by Queen's University Belfast (QUB) and awarded an honorary degree of Doctor of Medical Science for Distinction in Medicine. In March 2022 I was elected to Honorary Fellowship of the Faculty of Public Health. I was Knighted in 2021 for services to public health in Northern Ireland. As CMO I am responsible for the Chief Medical Officer Group (CMO Group) and as such I am a member of the Department's Top Management Group (TMG). In the period leading up to the pandemic the CMO Group included two policy Directorates (Population Health and Safety, Quality and Standards (now Quality, Safety and Improvement Directorate)) and a team of medical advisors. CMO Group also included the Chief Pharmaceutical Officer (CPO), the Chief Dental Officer (CDO), the Chief Environmental Health Officer (CEHO) and the Chief Scientific Advisor (CSA) and their respective policy and professional responsibilities for which they were individually responsible.

CHIEF MEDICAL OFFICER FOR NORTHERN IRELAND ROUTINE ROLES AND RESPONSIBILITIES

15. As Chief Medical Officer and a member of the Department's Top Management Group (TMG) I have a wide range of roles which cut across my professional, executive and leadership responsibilities within the Department and in relation to its direction and oversight of HSC organisations, which plan and deliver services for the population of Northern Ireland. I also liaise with my Chief Medical Officer colleagues across the UK and the Republic of Ireland on a collaborative basis concerning public health issues. These roles are described below.

Chief Medical Officer for Northern Ireland

16. As CMO I am accountable to the Minister of Health and the Permanent Secretary in the Department. My role is to provide independent professional advice to the Minister of Health. While I am also accountable to the Minister, my professional advice remains independent of political consideration or influence.

17. Both prior to, during and after the pandemic CMO Group has had responsibility for all domains of public health policy including health protection and health improvement, both of which are particularly relevant to the Inquiry. For example, at that time the Population Health Directorate within my Group included the Department's policy responsibility for: health protection including vaccination programmes, population health screening programmes and

emergency planning; health improvement including healthy living, smoking prevention, drugs and alcohol, obesity prevention, teenage pregnancy and related policy areas.

18. The Department's Population Health Directorate also sponsors the Public Health Agency (PHA). The PHA is an Arms-length Body (ALB) of the Department and has a pivotal role to play in our response to incidents and outbreaks. The role of the PHA was central to the pandemic response in Northern Ireland. I worked particularly closely with the leadership team and colleagues in the PHA who provided professional advice and support in coordinating the public health response. The PHA in some instances led, at my request, elements of the response. Given the scale and complexity and the sheer pace of events, it was necessary to adapt previously established working arrangements.

19. The capacity and capability within respective public health bodies to provide the sustained response required to a future pandemic is a material consideration and one which I will return to in more detail later as part of my reflections on learning.

20. In addition, I have policy responsibility for a range of healthcare quality, safety and improvement areas. The Quality, Safety and Improvement Directorate within my Group includes policy responsibility for: the HSC Complaints Process; Serious Adverse Incidents (SAIs) Reporting and Investigation; Adverse Incidents involving Medical Devices; 'Never' Events; the relationship between the Department and the National Institute for Health and Care Excellence (NICE) which issued Covid-19 related advice and guidance throughout the pandemic; Certification of Deaths including the completion of Medical Certificates on the Cause of Death (MCCDs); Openness and Candour in Health and Social Care; and the Regulation and Inspection of HSC services. This Directorate sponsors the Regulation and Quality Improvement Authority (RQIA), an ALB of the Department which provides regulation and assurance of HSC services.

21. The shape and nature of these two main Directorates have changed significantly since the pandemic commenced and both look different in form now to what they did in March 2020. The Quality Safety and Improvement Directorate has been integrated and reshaped throughout 2021 and 2022; Population Health Directorate is in the process of being reshaped into three separate Directorates (Health Improvement, Health Protection and Emergency Planning/Covid-19 Contingency). I will also comment further on this later in my statement in respect of my reflections and learning.

22. Separately from these responsibilities, I have policy responsibility for Health and Social Care Research policy working closely with the Chief Scientific Advisor (CSA).

Collaboration With Other UK Chief Medical Officers

23. While in each jurisdiction the CMO provides independent advice to respective Ministers and this was the case during the pandemic, as CMOs we have always worked closely on public health policy, generating evidence and independently advising respective Ministers as decision makers. Examples of this joint work would include our work on the development of the UK CMO Physical Activity Guidelines and similar work to develop the UK Chief Medical Officers Low Risk Drinking Guidelines. Similarly, there is engagement with my counterpart in the Republic of Ireland for example in the area of alcohol policy.

Professional Leadership to the Medical Profession in Northern Ireland

24. I also provide professional leadership to the medical profession in NI. With my CMO colleagues in England, Scotland and Wales, we provide collective leadership and guidance to the profession across the United Kingdom on a range of clinical and professional matters. This was particularly important during the pandemic, recognising the extremely challenging and at times distressing circumstances within which teams were working amid significant uncertainty often at great personal risk. During this time, we issued a range of guidance and advice as the evidence about the virus developed and experience of the disease and its treatment evolved. By way of example, we issued joint statements and correspondence to the profession in relation to the importance of recruitment to UK wide Covid-19 therapeutic trials [Exhibit MM/2 - INQ000137309], the prioritisation of first doses of Covid-19 vaccination during the early phase of the vaccination programme [Exhibit MM/3 - INQ000137310], and we provided assurances and support to frontline clinicians in recognition of the extraordinary pressures they were working under during the height of the health service pressures [Exhibit MM/4 - INQ000137311]. Examples of the joint CMO letters to the medical and public health profession are attached at pages 378, Appendix A of the UK CMO Technical Report with examples of some joint key statements and public advice to Ministers at pages 379 [see Exhibit MM/1 - INQ000217254].

Principal Healthcare Professional Advisor to the Department of Health

25. Usually commentators, members of the public and political representatives refer to the National Health Service (NHS) when describing health and social care services in Northern Ireland. In practice the NHS exists in England and Wales with 'NHS Scotland' existing as a separate entity. In Northern Ireland we have an integrated Health and Social Care (HSC) system. Social Care Services including for older people and children, (which in England,

Scotland and Wales are delivered through Local Government) are commissioned and delivered in Northern Ireland alongside Health Services and by the same organisations. These organisations are Arms-length Bodies (ALBs) of the Department of Health. The relationship between the Department and ALBs is governed in line with arrangements established by the Department of Finance. The relationship between the Department and its ALBs is described in the HSC Framework document. The current name of the Department, 'Department of Health' can be misleading as the Department's responsibilities encompass both Health and Social Care in Northern Ireland.

26. The Department of Health (the Department) is headed by a Permanent Secretary with this role undertaken, for most of the duration of the period covered by this statement, by Mr. Richard Pengelly, CB. Mr. Peter May has been the Department of Health Permanent Secretary since March 2022.

27. The internal structure of the Department is organised into several Groups with each Group sub-divided into Directorates. The Heads of each of these Groups are members of the Department's Top Management Group (TMG), chaired by the Permanent Secretary. TMG is responsible for the governance, operational and financial management of the Department and Departmental policy. The Departmental Board has responsibility for overseeing the effective discharge of corporate governance within the Department. The Heads of each Directorate (Directors) are members of the Senior Civil Service.

28. Whilst the vast majority of the Department's staff are career Civil Servants, the Department also includes staff who are Health Care Professionals. These Health Care Professionals including myself, as Chief Medical Officer; the Chief Nursing Officer (CNO); the Chief Social Work Officer (CSWO); the Chief Pharmaceutical Officer (CPO); the Chief Dental Officer (CDO); the Chief Environmental Health Officer (CEHO); the Chief Scientific Advisor (CSA); the Chief Allied Health Professions Officer (CAHPO), the Chief Digital Information Officer (CDIO) and the Director of Communications. The Chief Professional Officers combine their roles of providing leadership to their profession and providing professional advice within the Department. The Chief Professional Officers have responsibilities for specific areas of policy and are integrated into the Department's management structure, working alongside career Civil Servants. The scope of my areas of policy responsibility are described below.

29. Separate Groups and Directorates in the Department have been established for business management purposes. These Groups and Directorates are not intended to create artificial barriers (silos) to working within the Department. The Department's staff, including professional advisors, can and do work seamlessly on policy and professional matters which

span the responsibility of more than one policy area and/or professional discipline. This was a major strength during the pandemic response as in effect most other policy work ceased and all staff worked collectively in common purpose and joint endeavour however this has resulted in significant other policy work being paused or delayed.

30. As the principal healthcare professional Advisor to the Minister of Health and to other Policy Groups within the Department, I lead a small team of doctors that provides professional medical advice. This is comprised of myself, two Deputy Chief Medical Officers (DCMOs), Dr Lourda Geoghegan and Dr Naresh Chada and several Medical Advisors. Together we provide advice to policy areas across the Department including primary care, secondary care, workforce, mental health, elderly care, family and children's services. The Department policy leads for these areas sit in other Groups within the Department including, for example, the Groups led by the Deputy Secretary of Health Care Policy Group (HPG) and the Chief Social Work Officer respectively. In instances where specific specialist advice is required which is outside the area of expertise of this team of Medical Advisors, my staff and I work to secure the necessary expert advice from outside the Department from HSC organisations, academia and if necessary, from outside Northern Ireland including sourcing advice from other specialist advisory groups. Other professional leads in the Department operate in the same way, including providing their professional advice to policy areas within my Group. Both DCMOs have specific policy responsibilities within my Group alongside their role as Professional Advisors.

Departmental Sponsor of the Public Health Agency & the Regulation and Quality Improvement Authority

31. In addition, my role as head of sponsor branch of the Public Health Agency (PHA) and the Regulation and Quality Improvement Authority (RQIA) involved supporting them in the delivery of their responsibilities. Given the nature of the response required, my roles and responsibility and those of CMO Group changed and evolved. As with all public health bodies and agencies, the PHA faced significant challenges in its role in responding to the pandemic particularly given the intensity of the response required and its duration. The PHA leadership team, CMO Group and I worked very closely to provide mutual support and assistance to ensure the PHA was best placed to meet emerging and evolving challenges and the many demands faced. This also involved myself and my team working closely with RQIA to utilise their expertise in supporting care homes and domiciliary care providers. By way of example this included ensuring regulatory flexibility [Exhibit MM/5 - INQ000137312] in terms of inspections to reduce the risk of the introduction of infection into care homes and the re-alignment of RQIA staff to establish a Service Support Team [Exhibits MM/6a -

INQ000137313, MM/6b - INQ000137315, and MM/6c - INQ000137316] which was announced by the Minister on 14th April 2020 [Exhibit MM/7 - INQ000137317]. The establishment of this support team was the outworking of collaborative work between my Group which sponsored RQIA and the Chief Social Work Officer Group which had, among other areas, policy responsibility for Care Homes and domiciliary (home based) care.

Public Health Communication

32. As CMO, I have an important role in communicating with the public on key public health issues, and actions that are important to protect and improve public health and wellbeing. This communication role was a crucial element of my responsibilities during the pandemic and took a variety of forms. I will address this more fully later in my statement below and again in my reflections on learning. Throughout the response to the pandemic there was a need to provide advice, information and data on a range of issues including what was known about the virus, the risk of severe disease, hospitalisation and death and what people could do to protect themselves. There were significant challenges initially in collating all the information required particularly when reliable information was limited, and data collection and regular data flows were only being developed both in Northern Ireland and across the UK. Once new data collections were developed it took time before we had sufficient data to assess patterns and trends. It was also important that the data was sufficiently robust before this was made public. These challenges are referenced in paragraphs 127 and 128 below and in [Chapter 4, pages 121 to 160 of Exhibit MM/1 - INQ000217254]. Transparency in relation to what was known and what was not, and publishing information and evidence was essential in ensuring public trust and understanding of what was required to protect others and the impact that action was having. As early as April 2020 I was detailing in press briefings, for example, the limitations of data on the numbers of deaths. It should also be noted that the definition of Covid-19 related deaths evolved over the pandemic and was understandably a source of significant public scrutiny and comparison. This was particularly important early in the pandemic when testing, by necessity, was more targeted in tracking the pandemic and understanding disease severity in those people who were at greater risk. It was also essential for the purposes of consistent and accurate reporting to the public. There is and remains often a procedural delay in the registration and reporting of deaths in the community and the summaries of deaths when Covid-19 was mentioned on the death certificate and publication of these official statistics by the Office of National Statistics (ONS) and Northern Ireland Statistics and Research Agency (NISRA). The latter was more comprehensive than the recording of hospital deaths where individuals had tested positive for Covid-19 which was used for

monitoring the impact of the pandemic. Misinformation and disinformation on social media especially were particular challenges. Further reflections on this are provided in the UK CMO Technical Report, Chapter 11, pages 373-376 [see Exhibit MM/1 - INQ000217254].

33. In summary my professional and policy responsibilities are wide ranging and involve providing professional and policy leadership, advice, support and appropriate challenge in matters impacting on the health and wellbeing of the population.

CHIEF MEDICAL OFFICER FOR NORTHERN IRELAND ROLES AND RESPONSIBILITIES DURING THE PANDEMIC

34. From January 2020 onwards my role and responsibilities and those of colleagues significantly changed and a dynamic approach was taken to Departmental structures as they were adapted to meet the challenges of the pandemic as these evolved. This involved the roles of individual staff, including Chief Professional Officers, teams and Directorates being repurposed to focus on aspects of the Department's response to Covid-19. It also involved the creation of new teams and structures including Directorates and staff from the Healthcare Policy Group led by its Deputy Secretary being repurposed to focus on the response to Covid-19. Despite this, the resources within the Department were finite and there was significant pressure on staff. There are currently plans for additional restructuring which could provide the opportunity to further enhance the Department's ability to respond to future crises.

Chief Medical Officer

35. Throughout the duration of any emergency the CMO is expected to continue to discharge the roles and responsibilities I have described above. This is something which I did throughout the period January 2020 to March 2022 to the best of my ability and continue to do. However much of my wider policy and professional responsibilities were by necessity paused as I assumed significant new and additional responsibilities. Those I have outlined below are in addition to my responsibilities in supporting the Health Minister in 4 Nation meetings and meeting with our Republic of Ireland (RoI) counterparts. Furthermore, I regularly attended Executive meetings. Over 150 Executive meetings took place between the beginning of March 2020 and the end of February 2022. I was accompanied to most of these meetings by the CSA, or his Deputy, who regularly gave presentations on the latest 'R' paper. The CSA and I then answered questions posed by Executive Ministers and provided additional information, when possible, to address their questions. I also attended pre-Executive meeting briefings, alongside the Minister and CSA, with the First Minister (FM) and deputy First

Minister (dFM) on an ad hoc basis in the first few months of the pandemic and then regularly when these became more routine later in 2020. All policy decisions were made formally at the Executive. While there were informal social media communications between officials and at times Ministers, these did not consider or predetermine significant decisions of the Executive to the best of my recollection.

36. With the agreement of the Minister in February 2020, I asked colleagues within CMO Group to work with colleagues from the Departmental Solicitor's Office to seek to make Covid-19 a notifiable disease as soon as possible. The Public Health Notifiable Diseases Order (Northern Ireland) 2020 was made on 28 February 2020 and came into operation on 29 February 2020. The primary effect of the 2020 Order was to require medical practitioners to share patient information with the PHA if they became aware, or had reasonable grounds for suspecting, that a person they were attending had coronavirus disease. This was also intended to remove any uncertainties about the legalities of sharing such information.

37. I provided advice and support to Ministers in engaging with a range of sectors and civic society. The CSA and I provided professional, public health and scientific advice in the development and communication of public health advice, guidance and campaigns. Alongside this, I remained responsible for providing and updating relevant professional guidance. An early example was guidance provided in respect of the new arrangements for the completion and issuing of Medical Certificates of Cause of Death (MCCDs) and Stillbirth Certificates [Exhibits MM/8a - INQ000137318 and MM/8b - INQ000137320], which I issued on 27th March 2020.

38. My role, as CMO, in response to any emergency (including a pandemic) is described in detail in the Department's Emergency Response Plan (ERP) [Exhibit MM/9 - INQ000215533] which was last updated in 2019. The full range of individual roles, structures, systems, and processes to be enacted in an emergency are defined in the ERP. The ERP describes the roles and responsibilities of Senior Officers and business areas within the Department as well as the roles of various organisations which are expected to play a role in a response to an emergency.

Chief Medical Officer Group

39. While the demands right across the Department were significant there were particular demands on CMO Group during the pandemic. This was particularly so in relation to the need to develop and adapt policy, prepare new legislation and to respond to extensive demands for advice to other policy and professional colleagues within the Department, as well

as to other government department and their agencies. To help meet this demand, the Department through my office secured a number of former and external staff with particular experience and expertise. These former and external staff worked within and on behalf of the Department to assist in providing advice, leading projects and providing support as required and reporting to me as CMO. These individuals included former Deputy Chief Medical Officers, Dr Paddy Woods and Dr Elizabeth Mitchell, former Department Senior Medical Officer Dr Margaret Boyle and a Consultant in Public Health, Dr Joanne McClean on secondment from the PHA. At my request, Patricia Donnelly, a former senior staff member within the Belfast Trust, led several pieces of significant work within and on behalf of the Department. Chief Professional colleagues including the then Chief Nursing Officer, Mrs. Charlotte McArdle, the then Chief Social Work Officer, Mr. Sean Holland and their respective professional and policy teams provided leadership on key elements of the pandemic response. Within the CMO Group, reporting to me, the Chief Scientific Advisor, Professor Ian Young, Chief Pharmaceutical Officer, Mrs. Cathy Harrison, the Chief Dental Officer (interim, Mr. Michael Donaldson, later replaced substantively by Ms. Caroline Lappin) and the Director of Population Health Directorate, Liz Redmond and her team also provided significant leadership on respective aspects of the response to the pandemic. This was in addition to the support and leadership of the then Deputy Secretary in Health Care Policy Group, Mr. Jackie Johnston, and his policy team, and the significant role played by the Department's Information Office.

40. The demands were significant and unrelenting. There were multiple requests for professional advice and guidance, and urgent policy positions, which had to be determined by the Health Minister. There were also significant cross-cutting decisions for the Executive at a time of considerable uncertainty and complexity. All of this occurred in the context of significant political and media scrutiny, and I was aware of the particular need to ensure that the public were kept fully informed and engaged in the response. The first 12 to 14 months of the pandemic, from March 2020 to April 2021, were characterised by extremely long working days, often late into the evenings including weekends. There was a significant volume of requests for advice from the CSA and myself to inform the approach in many areas within the Department and across other government departments and in supporting Ministers. Understandably, everyone's request for advice and input was considered by them to be a priority. This was demanding as these requests were directed to a small number of individuals to address, given the specificity of the knowledge and judgement required. The impact, although not exclusively, was particularly and disproportionately experienced by policy and professional colleagues within the CMO Group. There is an important learning point in terms of ensuring future resilience and support which I will return to later in my statement.

41. The CMO Group also includes the policy and professional responsibilities of the Chief Pharmaceutical Officer (CPO), the Chief Dental Officer (CDO), and Chief Environmental Health Officer (CEHO), all of whom as I have indicated reported directly to me. When the pandemic began, a substantial focus of the Chief Pharmaceutical Officer and her team's time involved working with pharmacy and medicines policy colleagues across the UK to ensure access to supplies of critical care medicines for the treatment of Covid-19 affected patients. In addition, actions were taken by the CPO to bolster community pharmacy services in Northern Ireland to maintain access to medicines, including home deliveries for vulnerable patients and provide reliable access to the advice of pharmacists across the country. The implications of EU Exit with the availability of and regulatory framework for medicines for prescribing in Northern Ireland also resulted in significant work for the CPO and her team. The establishment of the EU Exit framework for medicines could not be set aside or delayed, and work on that continued throughout the pandemic. Indeed, these EU Exit related arrangements and actions taken during the pre-pandemic period across the UK to strengthen supply chains appeared to be advantageous during the pandemic.

42. The policy responsibilities of the CPO and CDO encompassed the role of community pharmacy and the delivery of primary care dentistry during the pandemic and required them to work closely with their pharmacy and dental counterparts in the Health and Social Care Board (HSCB). In April 2022 the functions of the HSCB were integrated into the Department as a new group called Strategic Planning and Performance Group (SPPG). Dental services were particularly affected during the pandemic given the proximity to the patient and the high level of aerosols generated through routine dental procedures. The CDO worked closely with counterparts across the UK to balance risks for oral health personnel in line with cross-infection guidance while securing patient access to essential services, particularly in the first three months of the pandemic response.

43. Because of the work associated with the pandemic the Chief Environmental Health Officer (CEHO) ceased all his policy and professional responsibilities for a period of approximately 2 years from February 2020 to March 2022. His role during the pandemic included supporting work associated with the Emergency Operations Centre (EOC) and leading work on the development of the necessary Covid-19 related legislation, as well as regular reviews of and revisions to this legislation.

44. The CEHO provides professional environmental health advice to government departments to inform and develop government policy and legislation aimed at protecting and improving the health of the population. He is required to work without supervision or direct report staff to

represent the Department within a wide range of environmental health and public health areas both locally and nationally. Within the Department, the CEHO has an advisory role across policy branches, including those that make up the Population Health Directorate, which has policy responsibility for environmental health matters.

45. The role requires the establishment and maintenance of a wide network of engagement with bodies, agencies and groups that allow for research, information and activity to be accessed and assessed to inform situational awareness and formulated into professional advice. This key aspect of the role, along with policy development more generally, was severely disrupted during the main response to the pandemic and is likely to remain so for some time as the Department emerges from the demands and impacts of this period. At the time of writing, policy development in the area of environmental health remains formally paused within Population Health Directorate due to current pressures and priorities. As a relatively small Department in UK terms, it has become clear that Northern Ireland has been left somewhat behind in terms of developments across the UK in relation to policy on the environment and health both during and since the main period of response. This is but one example of the impact of the pandemic on key policy priorities.

46. The Chief Scientific Advisor (CSA), Professor Ian Young is also within the CMO Group and reports directly to me alongside both DCMOs and provided key leadership and support during the pandemic. His role in the Department is a part time one (equivalent to three days per week although this increased by necessity to full time during the pandemic) and has three main aspects:

    a) Chief Scientific Advisor – this involves providing scientific advice as required in the Department, and it was in this capacity that he was mainly acting during Covid-19;

    b) Director of Research and Development for HSC with overall responsibility for issues related to Research (including funding) in the HSC; and

    c) Head of profession for the Healthcare Science workforce in the HSC (Chief Scientific Officer), a role similar to that of other Heads of Profession (CMO, CNO, CPO, CSWO, CAHPO).

Chair of Health Gold Command Strategic Group

47. The severity and complexity of any emergency determines the level of the involvement of the Department and whether activation of 'Health Gold Command' is necessary. The

activation of Health Gold is the most significant response level available to the Department. It is reserved for emergencies when the Department is responsible for leading and coordinating the health response for an emergency that has been categorised as Serious (Level 2) or Catastrophic (Level 3 - the highest level). These are emergencies which require a cross-departmental or cross-governmental response. The Department can also ask for the Northern Ireland Central Crisis Management Arrangements to be activated. The Health Gold structures are designed to be modular and therefore to be flexible and scalable in response to the evolving situation. The arrangements under the Emergency Response Plan (ERP) have already been described to the Inquiry in a separate Departmental statement under Module 1. The decision was made to activate the response plan in January 2020 [Exhibits MM/10a - INQ000137322 and MM/10b - INQ000137323]. In simple terms this involved the activation of the Emergency Operations Centre (EOC). The EOC was responsible for managing information flows; producing situation reports (SitReps) and maintaining a watching brief of the incident particularly through monitoring SitReps from Health Silver and the Northern Ireland Fire and Rescue Service. This activation included the establishment of multiple subject-specific Cells (Groups) focusing on specific areas of response to the pandemic. It also included the activation of Health Silver arrangements led by the Health and Social Care Board (HSCB), Public Health Agency (PHA) and the Business Services Organisation (BSO). The principle of subsidiarity applied within each cell, with the cell being responsible for preparing for, monitoring and responding to the impact of the pandemic in its specified service delivery and or policy area and in addressing matters raised by Health Silver. As such each of the Cell leads [Exhibit MM/11 - INQ000137324] provided key leadership to areas of the response and support to me as CMO and Chair of the Strategic Cell. All of this required the ability to respond to new and complex emergent issues through the development of new processes, guidance or policy. Where necessary such matters were escalated to Health Gold Strategic Cell. In preparing my statement I have necessarily been reviewing documentation generated by some of these cells which I would not have had sight of or reviewed at the time unless the issue had been escalated to the strategic cell for action or decision.

48. My role as CMO during the initial phase of the response was to lead the coordination of the health response to the impending public health emergency recognising the significant work and contribution from many others. The decision to activate the Strategic Cell was agreed at an emergency meeting of TMG held on 4th March 2020 [Exhibit MM/12 - INQ000137325]. Subsequently, I chaired the ERP's Strategic Cell when Health Gold Command was activated on the 9th March 2020. The Strategic Cell is a strategic decision-making group which is usually chaired by the Chief Medical Officer and includes key policy leads from across the

Department. This was the 'Emergency' phase of the pandemic which is one of the scenarios which the ERP was developed to address. By exception another member of the Departments TMG would chair the Strategic Cell if I was otherwise unavailable. As CMO and Chair of the Strategic Cell my role involved overseeing and seeking assurance on what in effect was the formation and foundation of the various programmes of work, many of which were required throughout the pandemic. This included dealing with a wide range of issues from Covid-19 testing in all its forms, contact tracing and surveillance capacity and capability for "surge" planning in health and social care for the anticipated health service consequences.

49. When matters were escalated to the Strategic Cell, which would have been, for example, due to their complexity, policy or resourcing implication, it was my role to work with the Cell leads to ensure these were resolved. This was insofar as this was possible notwithstanding the associated planning uncertainty and working within the constraints and limitations we faced. These constraints included for example finite intensive care capacity and respiratory beds and supply chain issues in relation to drugs and oxygen concentrators. Many actions were taken to plan for and address the anticipated health service pressures. For example, service works to increase physical bed space including the redesignation of existing hospital facilities and work to improve the resilience of the oxygen supply to hospitals. In all of this, my objective and the work of the Department and the HSC coordinated by the Strategic Cell was to seek to ensure a balance in the need to create the capacity to manage the anticipated additional health service pressures of Covid-19. Measures were in place that reduced the risk of infection to individuals and staff, and also reduced the risk of outbreaks in health settings, whilst at the same time ensuring that the population could still access the health service. A range of specific Non-Pharmaceutical Interventions ('NPIs') were introduced in HSC services, including: social distancing; enhanced ventilation and environmental cleaning; the use of appropriate setting specific Personal Protective Equipment (PPE); pre-admission testing; quarantining before elective procedures; and the introduction of routine asymptomatic testing of staff, in addition to specific guidance for healthcare workers on self-isolation if they tested positive for Covid-19. All these measures were reviewed and updated as the situation evolved.

50. An essential element of the health service preparation was to ensure the continued access to emergency and essential services, including general practice, dental services, maternity and children's services, cancer services and screening services for high-risk conditions. This involved, for example the development and implementation of alternative service models such as Covid-19 Centres, virtual general practice and

hospital consultations, the establishment of urgent dental care centres, including treatment pathways for those with cancer, given their increased risk from Covid-19. All these pathways and new service arrangements progressed and were coordinated by Health Gold Command Strategic Cell. Despite the considerable efforts by the HSC, there was regrettably a significant impact on non-urgent elective activity and a range of other planned services, including routine screening programmes and support services. Extensive efforts were made to provide as many of these services by alternative means as possible, while minimising the risk of infection.

51. Later in the pandemic, which I understand will be more fully considered in module 3, there was a particular focus on the support provided to Trusts in preventing outbreaks of Covid-19 in healthcare settings. I established a "Nosocomial (health associated infection) Cell" to provide specific advice and support to Trusts. I have provided further information on the work of this Cell in the section "Structures - Covid-19" response below. This led to the development by the Department of a "Covid 19 nosocomial dashboard" which provided Trusts with close to real time access to data on Covid-19 infections that had arisen in hospital settings. This was used to support infection prevention and control and the management of outbreaks. In due course, with the roll out of the vaccination programme and greater levels of population immunity, the strategic focus shifted to the reopening of services under the Rebuilding Management Board (RMB) - of which I was a member - while ensuring proportionate infection prevention control measures were in place to protect patients and staff. Relevant guidance and advice was updated at that time. At this later stage in the pandemic, it was essential to ensure that the risk of infection and outbreaks was balanced with the need for the public to access health services. It was recognised that the combination of behavioural change in health seeking behaviour by the public and changes in access to services was in of itself creating potential harm in terms of delays in treatment and care, which could potentially impact on outcomes.

52. As Chair of the Strategic Cell my role was also to seek to ensure strategic alignment and coordination of the totality of the response across the cells. This was essential to ensure that the necessary elements of the initial response were in place and functioning effectively. It was also essential that the necessary preparations for anticipated later pressures and challenges of the pandemic were made. This work was further informed by the Northern Ireland Modelling group consensus estimates. My role involved tasking various cells and the PHA with specific work and providing constructive challenge to ensure the robustness of the arrangements in place, and I describe some examples below. It also involved recognising the uncertainty of the planning context, commissioning reviews, assurance of plans previously received, and

proposing potential options for newly identified aspects of the required response. Some examples of this and my role are outlined below.

Leading and Planning in a Challenging and Evolving Situation

53. Planning against a background of much uncertainty was challenging. It required plans, policy and guidance to be continually reviewed and updated as knowledge of the virus evolved, as additional capacity and capabilities were developed, and as revised modelling provided more refined indications of the parameters within which we were working. Many of the issues involved were complex. They required an understanding of both the evolving knowledge of the characteristics of the virus, and logistical issues which presented significant operational challenges. A pertinent example of this was my tasking the PHA to develop a Covid-19 testing programme in care homes and how this subsequently evolved.

54. This programme commenced in its initial form on the 27th April 2020 when it was announced by the then Health Minister that testing would be carried out on all residents and staff when a care home was identified to the Health Protection team in the PHA as having a potential outbreak or cluster of infections. The previous approach had been to test only care home staff and residents who had displayed symptoms. In the initial stages, at my request, the Northern Ireland Ambulance Service provided mobile support to the testing programme in care homes. This service was integrated into the Health and Social Care (HSC) Trusts and PHA and HSCB teams who were working with and providing support to care homes, with up to 40 nurses from the HSC who were redeployed to support testing in care homes. Informed by advice being developed by the Scientific Advisory Group for Emergencies (SAGE) and the Department's Strategic Intelligence Group (SIG), on the 13th May 2020 the Minister announced there would be significant expansion of care home testing and on 18th May 2020, the Minister announced that Covid-19 testing would be made available to all care home residents and staff across Northern Ireland, with the intention of completing this in June 2020. The expansion of this programme was achieved by working jointly with the leadership of the PHA.

55. The extended programme of Covid-19 testing in care homes was delivered through two separate pathways: testing in care homes with suspected or confirmed Covid-19 outbreaks, and testing in 'green' care homes, that is those homes without a Covid-19 outbreak. HSC

Trusts were responsible for administering the testing programme for care homes which were in an outbreak. The UK National Testing Programme supported the independent sector care home providers and the HSC Trusts in testing all residents and staff in the 'green' care homes.

56. To provide effective direction, support and guidance in successfully completing this phase of Covid-19 testing across care homes, and to effectively determine future care home testing requirements, I established a Care Home Task and Finish (T&F) Group. This group, chaired by the Deputy CMO, Dr Lourda Geoghegan, included key policy and professional representatives from the Department and the Expert Advisory Group on Testing (EAG-T), the PHA, and the Regulation and Quality Improvement Authority. This group met for the first time on 8th May 2020, with subsequent meetings scheduled on a regular basis.

57. By the end of June 2020, all staff and residents in all care homes across Northern Ireland had been offered Covid-19 testing. Given the significant planning and logistical challenges associated with undertaking such an extensive programme of testing across a significant number of facilities in a relatively short period of time, this was a positive outcome. The successful completion of this phase of the care home testing programme was made possible through a collaborative multi agency working partnership between the Department, the PHA, the HSC Trusts, the NI Ambulance Service and, importantly, the care homes themselves. This partnership working was reflected in many aspects of the pandemic response.

58. The then Minister announced the next phase of testing in care homes on 28th July 2020. A rolling programme of regular Polymerase Chain Reaction (PCR) testing started on 3rd August 2020 for all residents and staff in 'green' care homes which did not have a confirmed outbreak of the virus. The aim of this was to help to keep these homes free of Covid-19. At that point it was recommended that asymptomatic staff should be tested on a fortnightly basis and asymptomatic residents tested monthly. In addition to the rolling programme of asymptomatic care home testing, an enhanced testing protocol was also in place for care homes with a suspected or confirmed Covid-19 outbreak.

59. Again, by way of example of seeking further reviews and updates to plans, following a meeting with the senior leadership team of the HSCB and PHA on the 11th February 2020, I requested in writing [Exhibit MM/13 - INQ000137326] (on the 17th February 2020) that they develop integrated 'surge' plans setting out how health and social care would respond to any significant increase in Covid-19 cases. These plans were to cover community and primary care through to acute care, including those areas where it was anticipated there would be particular demands such as critical care. On receipt of the plans, I commissioned

further work to quality assure and address gaps in the plans. The initial plans reflected to some extent the uncertainty around the potential health and social care pressures which made surge planning problematic. This additional work included the need for specific work and surge plans to be developed for critical care, secondary care and for the care home sector. The work I commissioned in the care home sector, on completion, was, I understand, subsequently integrated into the initial plans which had been developed by the HSCB. For critical care, the output was incorporated into the HSC Summary Action Plan (March/ April 2020) which covered actions in some twenty-one health service areas informed by the reasonable worst case scenario planning data. The review of the initial health service surge plans also resulted in the establishment of a Covid-19 Strategic Surge Planning Directorate by the Deputy Secretary of Health Care Policy Group (HPG) in May 2020 to provide leadership to the Surge Policy Cell of the EOC reporting into the Strategic Cell. The CNO, the Director of strategic surge planning, the Deputy Secretary and I worked closely together on this.

60. In these early stages of the pandemic a great deal of innovative work was undertaken. This included evolving and developing testing capacity and guidance on testing which in due course was based on recommendations by the Expert Advisory Group on Testing (EAG-T); my commissioning of work to develop a Covid-19 Public Information Dashboard to provide a common data source; work with Digital Health and Care NI (DHCNI) to introduce the StopCovid-19 NI Proximity App; and in due course the Digital Self Trace contact tracing App and the Vaccination Management System. Again, this was only possible with the leadership and support of many individuals and teams.

Giving Direction

61. While the response was a collective effort across the Department, CMO Group staff also led a number of the subject specific cells, for example: the Health Protection Cell; the Testing Cell; the Supplies Cell and the Deaths Cell. In addition, CMO Group took on responsibility for significant new policy and legislative responsibilities: leading the work on the Coronavirus Act 2020, and the amendment of the Public Health Notifiable Diseases Order 1967 to make Covid-19 a notifiable disease. CMO Group also provided input to the Executive's Recovery Plan and professional input to the Clinically Extremely Vulnerable (CEV) Operational Cell when established. In addition, CMO Group took forward the work to develop The Health Protection (Coronavirus, Restrictions) Regulations (NI) 2020 for the purpose of enabling the introduction of public health measures including restrictions and closures. The purpose of these regulations was to reduce the public health consequences of the pandemic. CMO Group staff were also responsible for

statutory reviews of these regulations. From June 2020 onwards, Executive papers seeking agreement to the easing, extension or imposition of restrictions were submitted mainly by either the Department or The Executive Office (TEO). Only the Department had the statutory powers to make regulations giving effect to the decisions on restrictions made by the Executive, regardless of whether the original Executive 'decision' paper was submitted by the Department or TEO. The CMO Group staff also took forward the development of the Health Protection (Coronavirus, Wearing of Face Coverings) Regulations (NI) 2020 and in due course the Coronavirus International Travel Regulations. These Executive papers submitted by the Department and TEO routinely involved engagement with other departments in the preparation of their content and recommendations.

62. In response to the continuing work demands placed on the CMO Group staff, a Covid-19 Response Directorate was established in September 2020. A number of the staff in this new Directorate had already been supporting the response to Covid-19 from early March 2020 onwards as part of a departmental resource realignment. The following year, in June 2021, a Covid-19 Strategy Directorate was established. The primary role of the Covid-19 Response Directorate was to oversee policy in relation to Testing and Contact Tracing. The role of the Covid-19 Strategy Directorate was to oversee a range of new evolving responsibilities including Waste Water (WW) Surveillance, coordination of the relationship with the then soon to be established United Kingdom Health Security Agency (UKHSA); support for the International Travel Programme; and a refresh of the Testing Strategy (the latter was not published as it was overtaken by events).

63. On reflection, the collective effort across all the cells, respective leads and the common purpose and endeavour across the Department, PHA, HSCB, BSO, RQIA and Trusts was quite remarkable. Similarly, the pace, level of innovation and adaptation within an extremely short period of time was impressive. A key learning point for any future pandemic is the requirement for maximum agility and adaptability as each new challenge or additional area of work was identified. No two pandemics will be the same, whatever the pathogen is, the Emergency Response Plan (ERP) will need to be adapted accordingly. Therefore, while thematic preparation and resilience is essential, so too is maximum flexibility and adaptation. I shall return to this later in my statement.

64. By their nature, emergency response arrangements are designed and intended to be in place for a limited period. The phase of the Department's response, during which Health Gold Command, the Strategic Cell and EOC were operating lasted until June 2020. On 11th June 2020 I wrote to Department staff [Exhibit MM/14 - INQ000137327]

advising them that the Minister had agreed [Exhibits MM/15a - INQ000137328, MM/15b - INQ000137334, MM/15c - INQ000137335, MM/15d - INQ000137336, MM/15e - INQ000137337, and MM/15F - INQ000137339] to scale back the Emergency Operations Centre (EOC) to function on a 'soft stand-up' basis. This involved the EOC operating with reduced staffing levels from 09:00 to 18:00 on weekdays and with a virtual EOC operating from 10:00 to 18:00 at weekends. In effect the EOC moved to keeping a 'watching brief'. I also advised staff that the Strategic Cell would be stood down the following week and that its work would be replaced by the newly established Management Board for Rebuilding HSC Services [Exhibits MM/16a - INQ000137340 and MM/16b - INQ000137342], which would have oversight of both Covid-19 and non-Covid-19 activity, including the various subject-specific cells which sat within the EOC structure. The Department's response to Covid-19 had moved beyond the arrangements described in the ERP and was in effect being absorbed into a more 'Business as Usual' model in the Department, with a substantial portion of the staff within the Department continuing to be repurposed to work routinely as part of the Covid-19 response within their respective policy teams. In August 2020 the EOC was then fully stood down. From that point forward, I coordinated the public health response to the pandemic through a number of "Oversight Boards" and formal meetings, examples of which are provided at paragraph 118.

Collaboration With Other UK Chief Medical Officers

65. From January 2020 as the outbreak in China developed, all four UK CMOs came together to provide advice on the threat of the outbreak becoming a pandemic and we advised respective Ministers and governments. Furthermore, through the pandemic we met each week to review data on disease activity, potential growth and direct health service pressures in each jurisdiction to provide advice to the Secretary of State for Health and respective Health Ministers and governments on the UK Covid-19 Alert level. Again, early in the deployment of the Covid-19 vaccine, in a further wave of infection, we provided joint advice to Ministers on the evidence to prioritise first doses of the vaccine, and to lengthen the dose interval to protect as many people as possible as soon as possible. During the pandemic response, the 4 UK CMOs, as requested by Ministers, worked together to provide joint advice to the UK government and the Devolved Administrations on specific matters. An example of this collaboration was our letter and recommendations to the Secretary of State for Health and Health Ministers on the universal vaccination of children and young people aged 12-15 years.

66. Throughout the pandemic my Deputy Chief Medical Officers (DCMOs) and I met regularly with our counterparts in Great Britain to exchange information and provide mutual advice and

support. These 4 UKCMO meetings attended by respective CMOs and DCMOs took place approximately three times per week in 2020, and approximately two times a week in 2021 and early 2022. The 4 UK CMOs, including myself, also participated together in other UK wide groups and meetings, for example the UK Senior Clinicians Group. The DCMOs would also have attended these meetings.

DECISION MAKING

67. Strategic decisions within the Department are made by the Minister of Health. The decision in June 2020 to scale back the EOC is but one example. The normal process for a decision by the Minister is for officials to provide the Minister with a 'submission' detailing information, options if appropriate, and the recommendation of officials. However, in some instances decisions met criteria set down in a Ministerial Code [Exhibit MM/17 - INQ000215120] which requires individual Ministers to refer the decisions to the Executive for its consideration. The criteria for referral of Covid-19 related decisions to the Executive were routinely met during the Covid-19 pandemic.

68. In normal circumstances the work programme being taken forward by the Department reflects the priorities of the Executive and the Health Minister. The information and advice being provided to Ministers is normally formulated to deliver on the Executive's and Health Minister's priorities. Ministers will consider the advice and recommendations they are given by Civil Servants, and provided that the direction of travel accords with that set out by the Executive and Minister, Ministers will typically follow the advice provided.

69. The role of Departmental advisors, including myself, and officials during a pandemic is exactly the same as that needed outside of a pandemic, i.e., to provide information and advice to Ministers. The constitutional position is that it is the Ministers' responsibility to take decisions. In doing so they take account, as they wish, of the information and advice they receive from their advisors, officials and any other source they wish to engage with. The advice included in submissions can be set out as specific recommendations and/or as options for the Minister to consider. Ministers have a right to expect that the advice they are receiving from Civil Servants and from Health Care Professionals, such as myself, is well founded in evidence and is appropriate.

70. However, Ministers are not required to follow the advice they receive. The ability to make independent decisions is a Minister's prerogative. Sometimes Ministers will require further

work to be undertaken in respect of a proposed course of action, in order to fully satisfy themselves before making a decision. This again is a Minister's prerogative. These things are much more likely to occur when a decision is particularly difficult, controversial or is required to address circumstances which are not fully within the Department's or the Minister's control, or in the case of Covid-19, not fully within the control of the Executive.

71. Over a long period of time during the pandemic, Covid-19 related decisions were also being made in circumstances where there was often an incomplete evidence base, and it was a case of having to act on the best available information and evidence in a rapidly changing and very complex environment. Over the course of the pandemic, knowledge of all aspects of the virus, including its transmission, evolved. A number of decisions involved matters relating to personal and public freedoms (some relating to life and death) and because of this by their very nature, these decisions were difficult. The consideration of the necessity for further NPIs in the context of an increasing infection rate, or the emergence of new variants of Covid-19, which were more transmissible and resulted in more severe disease were examples which posed challenges for decision makers.

72. In some cases, the process of both decision making and implementation of decisions during the pandemic were atypical for devolved matters. By this I mean that, whilst restrictions for example could only be implemented in Northern Ireland through the Executive and Northern Ireland Assembly, the initial locus for discussion of the decisions on restrictions implemented by 1st April 2020 was primarily COBR (the Civil Contingencies Committee) involving the UK Government and Devolved Administrations. This was appropriate given this was a UK wide emergency and, also in part because the impact of the pandemic in parts of England, which was at that time in the first wave, was greater than in other parts of the UK. It was also the case subsequently during the pandemic that there were occasions when regulations were made in advance of scrutiny by the Assembly. These circumstances added to the complexity of the task when providing professional advice to Minister and the Executive.

Role of Northern Ireland Government – The Executive

73. The functioning of the Northern Ireland Executive Committee is governed by the Ministerial Code (referred to above) which describes which matters must be brought by individual Ministers to the Executive for decision. For example, decisions to impose or relax NPIs and legislation and regulation on restrictions during the pandemic met the criteria to be decided by the Executive as a whole rather than by any one Minister.

74. The Northern Ireland Civil Service Code of Ethics[1] sets out the constitutional position of Civil Servants and the values Civil Servants are expected to uphold.

75. In its simplest form, for those matters which require Executive consideration and approval, individual departments bring papers, drafted by Civil Servants and incorporating, when relevant, professional advice, to the Executive for agreement. The Executive discusses the recommendations or proposals outlined in the paper and then agrees or does not agree them. This is what happened during the pandemic.

76. The Ministerial Code also describes procedures by the Executive for:

    a) Retrospective approval;
    b) Urgent decisions; and
    c) Cross community votes.

77. On 11th January 2020 the Northern Ireland Executive (Government) was reformed after almost exactly three years of being in abeyance. The Executive Committee was comprised of Ministers from five different political parties in a coalition established under the D'Hondt arrangements which apply in Northern Ireland.

78. In the three years up to January 2020, when Northern Ireland was without an Executive, Department of Health officials had undertaken significant initial work to progress new models of service delivery. During this time, I was the Senior Responsible Officer (SRO) working closely with the Deputy Secretary of Health Care Policy Group and his team. This initial work included, for example, plans for the establishment of day elective centres. Some of these models were already established and helped mitigate to some extent the adverse consequences of the pandemic on access to elective and diagnostic services. It is uncertain whether this work specifically would have been further advanced, or whether the Department more generally would have been better prepared to respond to the consequences and additional pressures of Covid-19 if Ministers had been in place between January 2017 and January 2020. I am unaware of any objective analysis to determine the impact on our pandemic response caused by the absence of the Executive.

79. Within weeks of its establishment the Executive was required to make urgent policy decisions in the context of an outbreak of a novel virus and subsequent global pandemic with very significant health, societal and economic implications. My experience was that the challenges

[1] The NICS Code of Practice was amended during the specified period covered by the Inquiry. The versions of the Code in place during the specified period can be provided upon request by the Inquiry.

and decision making in the early part of the emergency response to the pandemic were not significantly different in Northern Ireland from other parts of the UK.

80. In the initial period of the pandemic especially, there was significant uncertainty as a sufficient evidence base to inform policy decisions was not always available at key points in time. None of this made decision making straightforward, as the Executive, in addition to the health implications, had to consider the wider societal and economic consequences. In the absence of medical countermeasures, Non-Pharmaceutical Interventions (NPIs) with potentially profound wider implications, were all that was then available to control community transmission, prevent excess deaths and to prevent the health service being overwhelmed. There were only a series of "least worst options and choices" available to Ministers.

81. It was clear from March 2020 onwards that the Executive was aware of the need to consider these non-health related implications of Covid-19. On 16th March 2020 the Executive considered a paper [Exhibits MM/18a - INQ000137343 and MM/18b - INQ000137344] which identified these non-health related implications identified by departments other than the Department of Health. The Executive needed to consider all these implications. My responsibility was to offer health advice from the health and well-being perspective of the population. As CMO I was aware that the non-health related implications identified by other departments were not mutually exclusive of each other and were also not mutually exclusive from issues affecting the health and well-being of our population. The Executive was advised on these wider, non-health related factors by the respective departments, sometimes with input or advice to those departments from the Department, the CSA and myself.

82. The CSA and I provided advice:

i. to the Department and Minister for Health;
ii. sometimes bilaterally to other government departments for example the Department of Education (DE);
iii. sometimes to other Ministers and their Special Advisors (SpAds); and
iv. frequently to the Executive as a group.

83. This advice to Ministers in other departments and to the Executive was generally routed through the Private Office and/or agreed with the Health Minister.

84. Executive decisions are recorded in the minutes of Executive meetings. There were occasions, particularly in the second and third wave of the pandemic, that having considered the advice of the Department, CMO and CSA alongside the wider societal and economic impacts, the Executive made decisions not solely based on the health advice. This is the prerogative of Ministers, and as I have already indicated these were extremely difficult decisions to make. As an example, the Executive's meeting of 9th November 2020 had to be reconvened on the 10th, 11th and 12th November in order for Executive Ministers to reach agreement on an extension of restrictions. The restrictions had been introduced for a four week period beginning on 16th October 2020. The Department had submitted a paper [Exhibit MM/19 - INQ000137345] for the 9th November Executive meeting recommending that these restrictions be extended for a further two weeks. At the final conclusion of this meeting on the 12th November, the Executive agreed on only a one week extension to restrictions. The Department, and this is reflected in my advice, had recommended a two week extension. The final minutes of this meeting record the differences of opinion of Executive Ministers regarding this decision.

85. The minutes of this meeting also record comments made by myself and the CSA which reflected my views on the challenges faced by Executive Ministers in making these difficult decisions:

- "*The Chief Medical Officer and the Chief Scientific Advisor acknowledged the difficult decisions facing the Executive and advised that it was more likely that they would be obliged to return to the Executive in mid-December to seek further interventions if easements were made to the current restrictions. The Chief Medical Officer advised of the prospect of excess deaths*-;"

- "*The Chief Medical Officer advised of his view that the Covid-19 pandemic would lead to excess deaths no matter which approach was agreed by the Executive, but that the likely level of excess deaths would depend on decisions made by the Executive at this meeting; and on future actions; and that having some restrictions in place was preferable to allowing all current restrictions to fall. However, any reduction in restrictions may lead to a further intervention being required before Christmas. He recognised the difficult decisions required to balance short term Covid-19 actions with longer term economic wellbeing*-;" and

- "*The Chief Scientific Advisor recognised the difficult choices facing the Executive as it sought to balance the need for health protection with economic difficulties resulting from Covid-19 restrictions, advising that the nature of a pandemic is to cause deaths no matter*

what measures are put in place, but reiterating that anything leading to an increase in the R rate would have a short term and more visible impact."

86. At a subsequent meeting of the Executive on 19th November 2020 Ministers decided to introduce restrictions for two weeks from 27th November 2020. This reflected the fast changing nature of events which resulted in Executive Ministers arriving at this new decision. These decisions had far reaching implications, and the difficulty faced by Executive Ministers in making them was reflected in the discussions which took place at Executive meetings. There were a number of occasions on which one or more Executive Ministers registered their disagreement with recommendations on restrictions which had been included in papers submitted by different departments. In some instances, Ministers registered disagreement with the final Executive decisions on restrictions. These instances are recorded in minutes of Executive meetings. There were occasions when Executive meetings were paused to allow for discussion between Ministers and/or officials around particular proposals. These instances are also recorded in the minutes of Executive meetings.

87. The agenda and papers for Executive meetings were circulated by Executive Office (TEO) officials. The process of agenda setting, recording of decisions of the Executive and any minute or record of actions from these meetings are for TEO officials to describe.

88. Over the course of the pandemic, a number of papers on restrictions (reviews, impositions and easements) were prepared by Department of Health officials with input from other departments. From June 2020 onwards papers on restrictions were also submitted by TEO staff with input from other departments including the Department of Health. The Department, TEO and other Ministers also submitted a range of other Covid-19 related papers to the Executive for information and/or decision throughout the pandemic.

Executive Decisions – March/April 2020

89. The ultimate role of the Executive in decision making regarding devolved matters is illustrated by the process which led to the imposition of the first set of Covid-19 restrictions in April 2020.

90. As indicated the challenges faced by the Executive in response to the pandemic were in my view largely the same as those facing the UK Government and the other Devolved Administrations within the UK. This was particularly evident in the close collaborative working between the different administrations and officials and advisors in the different jurisdictions in the period January to March 2020, which resulted in UK

wide legislation which gave each administration the statutory powers to introduce restrictions.

91. In the early months of 2020 the First Minister (FM), deputy First Minister (dFM) and the Health Minister met with their UK, Scottish and Welsh counterparts at COBR meetings and other four nation meetings. The political leadership of the four administrations discussed the response to Covid-19. This included guidance for the general public and options for NPIs which were implemented across the whole of the UK in March and April 2020.

92. This initial set of responses to the pandemic emerged from these joint discussions between the UK and Devolved Administration Governments. I was therefore, during this early period, providing advice to Ministers as part of the development of a UK response to Covid-19. The timeline below provides some information which explains the trajectory towards the first set of restrictions being introduced in Northern Ireland from 1st April 2020:-

- 16th March 2020: 'Work from Home and avoid unnecessary contact' statement made by the Prime Minister mirrored by Executive statement on same day. Also, on 16th March the Executive considered a paper [see Exhibits MM/18a - INQ000137343 and MM/18b - INQ000137344] which set out the potential impact of non-health related interventions to Covid-19 and proposals to activate 'emergency' infrastructure;

- 18th March the Executive announced school closures from 23 March 2020;

- 20th March 2020: UK government orders all pubs, restaurants, gyms and other social venues across the country to close. Press releases and statements by Executive Ministers over previous three days signaled intention to introduce restrictions;

- 22nd March 2020: UK government introduced social distancing – stay 2m apart;

- 23rd March 2020: Executive Announcement "*Crucial new measures will save lives. First Minister Arlene Foster and deputy First Minister Michelle O'Neill have said the introduction of new social distancing measures are crucial in the fight back against Covid-19. The new measures mean people must stay at home except shopping for necessities; medical need; exercising alone or with members of your household; and travelling to and from work. Shops and businesses providing non-essential goods and services also must close. People who can work from home must do so. Those who cannot work from home can go to workplaces where social distancing and government advice is being followed.*"; and

- 24th March 2020: The Executive published a list of essential businesses that are permitted to remain open to members of the public during the Coronavirus emergency and a list of non-essential retail services which should close immediately.

93. These announcements were made in advance of the Northern Ireland Executive being given the power to impose legal restrictions:-

- 25th March 2020: Coronavirus Act 2020 gets Royal Assent. The Act provides for legal restrictions to be put in place [Exhibit MM/20 - INQ000215121]. Section 48 and Schedule 18 of the Act provided powers in Northern Ireland to make regulations to allow for measures to be introduced to help delay or prevent further transmission of Covid-19, which presents or could present significant harm to human health.

94. For devolved matters, the Governments and legislative bodies of each administration had to formally make the decisions whether to adopt these interventions and pass legislation to put NPIs on a statutory footing. The first set of Covid-19 restrictions regulations [Exhibit MM/21 - INQ000215122] were made and commenced on 28th March 2020 with restrictions coming into effect on 1st April 2020. These regulations gave effect to the decisions announced by the Executive on 23rd and 24th March 2020 regarding social distancing and business closures.

95. The covering Executive paper [Exhibits MM/22a - INQ000137346, MM/22b - INQ000216630, and MM/22c - INQ000137347] for these regulations prepared by the Department made it clear that these restrictions had been discussed and agreed at COBR Ministers' Group (COBR(M)):

"*The Regulations reflect the policy discussions and agreement reached during meetings of the COBR (M) Committee in recent weeks, in which the Devolved Administrations participated. They reflect the agreed 'four nations' approach that has been adopted and follow very closely the form and content of similar Regulations that have been made (and are now in operation) in England – The Health Protection (Coronavirus, Restrictions) (England) 2020.*"

96. This initial joint approach to restrictions across the UK reflected that this was an emergency situation requiring immediate action. Subsequent iterations of restrictions allowed time for much more detailed consideration by the Executive in relation to Northern Ireland, taking account of the progress of the Covid-19 outbreak here which, at times, varied in timing and scale from other parts of the UK and also from the Republic of Ireland (RoI).

CMO Advice

97. My role was to provide advice to the Minister and to the Executive on their response to the Covid-19 pandemic. In providing my advice, my primary objective was to minimise the health consequences; save lives by preventing severe disease and deaths; prevent the health service from being overwhelmed; and ensure that people could receive the care they required. It was recognised from early in the outbreak that this was a highly transmissible respiratory virus and while it was initially hoped that the outbreak might be contained and of limited duration this rapidly proved not to be the case. The general approach that framed my advice is perhaps summed up best in the agreed initial UK coronavirus action plan published on 3rd March 2020 with the priorities being "*contain, delay, research, mitigate*" as outlined by the Minister in his statement of the 19th March 2020.

98. As described earlier I also worked closely with the CMOs for England, Scotland and Wales to provide 4 UK CMO public advice to the UK Government and the Devolved Administrations and respective Ministers on a range of matters. Such 4 UK CMO advice included, for example, the August 2020 statement from UK CMOs on schools and childcare reopening and the raising and lowering of the Alert Level. With respect to the latter discussions, initially these took place at UKCMO meetings. Later in the pandemic, these discussions took place weekly at the UK Alert Level meeting, with an analysis of data from across all jurisdictions being provided by colleagues from the UK Health Security Agency (UKHSA).

99. On a number of occasions, particularly in the early stages of the pandemic, I briefed the Health Minister, the FM and the dFM prior to their attending meetings of COBR, where the response to the Covid-19 pandemic was being discussed. On occasions, I attended these meetings to support the Health Minister and the FM and the dFM. From the beginning of March 2020 onwards, I also regularly attended meetings of the Northern Ireland Executive and supported the Health Minister in briefing the Executive. From the middle of May 2020 onwards I was regularly accompanied to Executive meetings by the Chief Scientific Advisor (CSA) or his Deputy. The agenda for Executive meetings was coordinated by TEO. At the Executive meeting the Health Minister was invited by the chair (the FM or the dFM) to provide an update on the Covid-19 situation. The CSA and myself contributed to that update as requested by the Health Minister, the FM or the dFM, and the CSA presented the weekly R paper. TEO was responsible for keeping a record of the meetings.

100. I frequently provided briefings to the FM and the dFM, often in support of the Health Minister and in advance of many Executive meetings. On occasions at the request of, or with the agreement of, the Health Minister, I provided one to one briefing to the FM, the dFM, the

Justice Minister, the Minister for Infrastructure, the Minister of Education, the Minister of Agriculture and other Ministers including Junior Ministers. These were information sharing meetings which allowed the FM, the dFM and other Ministers the opportunity to ask more detailed questions, again often in advance of Executive meetings or in relation to the specific policy remit of a particular Department. The FM, the dFM and other Ministers would often be accompanied by their Special Advisors (SpAds) for these meetings and briefings. I regarded these as formal briefing meetings, not informal or private, the purpose of which was to inform subsequent Executive meeting consideration and timely decisions given the fast moving situation. I am not aware of key decision making taking place at private or informal meetings and if that occurred it was not at meetings that I attended.

101. My role in these briefings was to share with these other Ministers the information and advice which I had shared with the Health Minister. As indicated I was often accompanied to these briefings by the Chief Scientific Advisor (CSA). Depending on the focus of the briefing, one or more other officials who could brief on specific subject matter might also have attended. On occasions, these briefings included relevant presentations on modelling and various future scenarios. These scenarios illustrated a range of consensus estimates for the potential course of the pandemic, including potential case numbers and the range of potential hospital admissions as a consequence. These were not decision-making meetings. Matters requiring decision making remained the responsibility of the Executive as a whole. At these meetings the Ministers normally asked a series of questions on the information presented, and its implications. This was similar to what occurred at Executive Meetings.

102. At times, further briefings occurred during the course of adjournments of Executive meeting. For some of these briefings the CSA and I attended in support of the Health Minister in order to answer any specific points of detail. I was not party to any other regular political meetings which may have taken place.

103. I also attended many meetings and briefings with the Assembly Health Committee in support of the Health Minister including ad hoc health committee meetings. In addition, along with my CMO colleagues I gave evidence to the Science and Technology Committee.

104. As I explained earlier in my statement, Executive Ministers considered non-health specific, factors in making their decisions. These included the impact of restrictions on the economy and society. At Executive meetings there was often wide ranging and extensive discussion, with Ministers expressing views on the need to maintain a balance between the necessity and requirement for restrictions to reduce transmission and the impact on the health service with the significant economic and wider societal consequences. On some occasions meetings

were adjourned if agreement could not be reached and on a few occasions such matters were decided by vote of Executive Ministers. These discussions were facilitated by the Chair (the FM or the dFM) and the CSA and myself provided further responses to questions as requested by the Health Minister or Chair. It is not within my role or my expertise to provide expert advice or interpretation on economic impact or the wider societal impact outwith the health implications. I did, however, highlight my concerns on the wider economic and societal impact on the health of the public due to NPIs and wider restrictions. Such matters were considered and reflected in the advice provided in Executive papers which included CMO and CSA advice. These wider concerns about the health impacts of restrictions are also reflected in media interviews and media briefings which I gave or participated in. In July 2020 for example I authored a platform article in which I highlighted the wider health impacts of NPIs in the following terms:

"*The restrictions of recent months have undoubtedly taken a heavy toll on the mental and physical well-being of many of our citizens. ALL OF US HAVE BEEN AFFECTED.*
The economic impact will have public health consequences too – there is a well-established link between deprivation and poor health outcomes."

105. The advice I provided was based on the best available evidence at the time. It is a fact that the understanding of the virus, its transmission and the disease caused took time to emerge as did the scientific, public health and clinical research undertaken to provide an understanding of these aspects and to improve the information for policy decisions including research to improve treatment and to develop medical countermeasures. This is considered more fully in the UK CMO Technical report, Chapters 1, pages 21 to 62 and Chapter 3, pages 107 to 119.

106. CMOs and CSAs had an essential role in prioritising science and supporting the direction and coordination of research from the outset. The priority given to science and research was reflected in the agreed initial coronavirus action plan in March 2020 with the priorities being "*contain, delay, research, mitigate*". The extraordinary efforts of scientists, clinicians, and members of the public in Northern Ireland and across the UK and internationally who undertook and participated in clinical research, during a time when, clinicians managed significant numbers of severely ill patients, was remarkable. The international scientific and clinical cooperation and sharing of emerging findings ensured the early translation of this into policy, guidance and treatment. As CMO, I, and my colleagues had full access to this. I considered information, evidence, expert consensus recommendations and advice from a wide range of sources in formulating and providing my professional advice to Ministers. This included consideration of the consensus views of SAGE and its subgroups, SIG in Northern

Ireland, recommendations from other international and European groups such as the World Health Organization (WHO) and the European Centre for Disease Control, emerging evidence presentations at the UK Senior Clinicians and my consideration of numerous scientific papers and other papers.

107. The two Deputy CMOs, Chief Scientific Advisor, Medical Officers, CPO, CDO and CEHO also reviewed emerging scientific evidence as part of their roles in supporting me. Throughout the pandemic I worked very closely with the CSA, my DCMOs, other Professional Colleagues and policy staff to provide the best possible advice to the Health Minister and consequently to the Executive. While presenting this advice, I made clear the significant uncertainties and the limitations of our knowledge and evidence at this time.

108. While this advice was formed through engagement and discussion, and with due regards to a range of sources of information, as CMO, I agreed the final form of the advice given to the Health Minister and the Executive reflecting my wider remit. Exceptions to this were when I was unavailable, for example, when I was absent on leave. Throughout the pandemic and particularly in the first four months, we adopted a collective team approach involving professional and policy colleagues across the Department and the wider HSC and its ALBs. This reflected the span of my responsibilities and the complexity required to coordinate the various aspects of the response to the pandemic.

POLICY AND DELIVERY STRUCTURES – COVID-19 RESPONSE

109. Given the complexity of the response required, from early March 2020 onwards, the pandemic became the "day job" for myself and occupied almost all capacity and capability across the Department and the HSC. There were significant challenges in resourcing the response and in supporting my role, in addition to coordinating and leading on key elements of the response. It therefore became necessary to work creatively to design new arrangements and bring back retired experienced colleagues and others to lead and support key elements of the response. There was simply not the agility and responsiveness within the Northern Ireland Civil Service to adequately resource or respond to multiple urgent demands. Consequently, the demands on small groups of staff in the Department and across the HSC were at times almost unsustainable. The same was undoubtedly true across at least parts of some other government departments. As it became clear that the pandemic response needed to be in place for a longer time period, a number of the arrangements previously developed in the NI Civil Contingency Plan and indeed the Department of Health's own ERP needed to be adapted and modified with some new cross departmental arrangements established.

110. During the first wave of the pandemic the structures in place to oversee the Department's response were those described in the ERP. In preparation for anticipated subsequent "waves" of infection, I commissioned an 'in flight review" of the structures. This review reported on 23rd April 2020 [Exhibits MM/23a - INQ000137348, MM/23b - INQ000137349, and MM/23c - INQ000137350]. Following the receipt of the report on 23rd April 2020 there was a series of internal discussions which ultimately prompted the recommendation to stand down first the strategic cell in June 2020 and then the EOC in August 2020. Furthermore, given the supply and logistical challenges with PPE I, with the agreement of the Minister, commissioned the Department's Internal Audit team to carry out a Rapid Review with input from across the HSC system with the final report being submitted to the Minister on 14th May 2020 [Exhibits MM/24a - INQ000137351 and MM/24b - INQ000137353]. The Review made 19 recommendations for the short-term improvement of the PPE position, which was used in preparation for a second wave of Covid-19.

Northern Ireland Governmental Level

111. Some of the cross-government structures and processes developed such as the NI Hub, Executive Covid-19 Taskforce, and the Covid-19 Cross Departmental Working Group were established by the Executive and/or established on a wider cross departmental basis. This included groups established and which worked under the civil contingencies' arrangements. My experience was that these arrangements ensured a much more effective cross-departmental response to the pandemic.

112. My policy staff, professional advisors and I, provided input and expertise to these wider TEO and cross-government working groups through a variety of arrangements. Sometimes by way of nominated membership of groups; sometimes through group or bilateral briefings and meetings; sometimes through regular liaison by email and telephone. As CMO I also participated in multiple media events organised by TEO and in engagements with stakeholder groups including for example Church Leaders, the Retail Sector and the Hospitality Sector. As described between March and June 2020, I chaired the Strategic Cell overseeing Health Gold Command. In this capacity I was supported by but also gave direction to multiple subject-specific cells established under the Health Gold Command Structures.

UK Level

113. In addition to chairing the Strategic Cell in DoH I regularly attended meetings of two UK wide groups. Neither of these two groups were decision making bodies but both groups provided

invaluable information, intelligence, advice and support to the Department, my team and to me. They were:

a) The UKCMOs meeting which in the early stages of the pandemic were taking place several times a week and were attended by the 4 UK CMOs and their Deputy CMOs; and

b) The UK Senior Clinicians Group which met regularly between March 2020 and March 2022 and was also attended regularly by DCMOs. The group provided a forum for discussion and the sharing of papers and research from within the UK and around the globe touching on almost every conceivable aspect of our response to Covid-19 including provision of critical care, PPE, Guidance, Care Homes, Testing and Tracing, periods of infectiousness, isolation periods etc.

114. The discussions, and evidence shared at these meetings, alongside other data, and information, was helpful in developing a shared understanding of the emerging evidence, knowledge and experience. Advice to the Health Minister on for example the need for NPIs, advice on regulations and other policy considerations was however based on the infection rate and trajectory of the epidemic in Northern Ireland and consideration and discussions involving the CSA, DCMOs and policy colleagues within CMO Group.

Department of Health Level

115. I also established or approved the establishment of several other key Northern Ireland groups which also generated information and advice for the same purposes. However, I was not always able to attend these meetings due to other commitments and meetings, such were the then demands. These groups also considered evidence from many different sources around the world as well as evidence and information generated from within NI. They included:

a) The Expert Advisory Group on Testing (EAG-T) [Exhibit MM/25 - INQ000137354] (which was established at my request) was a Departmental Group led at my request by an Associate Director within the PHA, Dr Brid Farrell. A key function of this group was to advise on implementation of Covid-19 testing in Northern Ireland (NI) and to provide expert advice which was then considered by policy leads to inform advice to myself and the Minister. The group also played a significant role in advising on and in delivering the expansion of testing capacity in hospital and community services as quickly as possible, exploring all available options including increasing laboratory testing capacity within the NI Health and Social Care laboratory network (known as Pillar 1); and advising as required regarding local operational delivery and implementation of the national testing programme,

known as Pillar 2 testing, which was procured and contract managed nationally on behalf of UK nations by the Department of Health and Social Care (DHSC) London, and latterly by UKHSA. Colleagues in the PHA worked closely where required with DHSC on local operational delivery of Pillar 2 testing. This group supported at my request the development of a NI Covid-19 Testing Scientific Advisory Consortium comprising both Northern Ireland Universities, the Agri-Food Biosciences Institute and the ALMAC Group boosting Pillar 1 testing capacity within NI.

b) Testing in Care Homes – Task and Finish Group [Exhibit MM/26 - INQ000137355]. This Departmental group was established at my request on the 8th May 2020 to provide direction and guidance to support the development and implementation of Covid-19 testing arrangements within care homes. It also more generally provided advice on testing to social care policy leads within the Department, and included active participation from the Public Health Agency and Regulation and Quality Improvement Authority.

c) The NI Modelling Group [Exhibit MM/27 - INQ000137356] which was Chaired by the CSA, Professor Ian Young, was a Departmental group. I attended meetings of the Group from January 2021 when the CSA was unavailable for a period. During this time the meetings were chaired by the Deputy Chief Scientific Advisor. I continued to attend after the return of the CSA. The role of the group was to undertake modelling work and to estimate the value of 'R' in Northern Ireland. The group considered information and modelling generated from across the UK and within Northern Ireland to inform their work and this was submitted to the Executive and published on the Departments website.

d) The Nosocomial Support Cell (NSC) - during the autumn and winter of 2020, there were considerable pressures on the HSC system in Northern Ireland, with HSC Trusts experiencing challenges, especially with regard to Hospital Associated Covid-19 Infections (HAIs). HAIs, or Nosocomial Infections, are infections that are acquired during the process of receiving health care that were not present during the time of admission. As infection rates increase, the impact of this can lead to:
   - prolonged hospital stays;
   - a higher number of staff absences due to self-isolation; and
   - an increased mortality rate, particularly among more vulnerable patients.

e) At that point, there were already measures in place across the HSC system to minimise transmission of Covid-19 in acute settings, including pre-admission testing, pre-admission quarantining prior to elective procedures, increased testing of healthcare workers, and reduced turnaround times for reporting of test results. Whilst these measures undoubtedly

had a positive impact in mitigating transmission of the virus in hospitals, it was recognised that as we progressed into the winter months, hospitals would be under increased pressure with both Covid-19 and non-Covid-19 admissions. It was critical to know exactly what was happening across the system to enable all services and service providers to be proactive in pre-empting potential outbreaks and the subsequent spread of Covid-19 in acute settings. In December 2020, I established a regional Nosocomial Support Cell (NSC) as part of the Department's approach to supporting Trusts to address the challenges arising from Covid-19 in healthcare settings [Exhibit MM/28 - INQ000137357]. The key objective of the NSC was to provide multidisciplinary support to the region and HSC Trusts experiencing clusters or sustained complex outbreaks of healthcare associated Covid-19 infections in acute settings. The work programme for the NSC included – development and introduction of a regional nosocomial dashboard, completion of a programme of learning visits to acute hospitals with a focus on sharing learning, development of a region-wide approach to reviewing and learning from deaths associated with hospital-acquired Covid-19.

f) The NSC had a key role in enabling quick and effective sharing of lessons learned and associated implementation of best practice across all HSC Trusts in relation to containing Covid-19 HAIs. The NSC at my request was chaired by Dr Anne Marie Telford (a past Director of Public Health in Northern Ireland) and membership included the Department, the PHA, the HSCB and other Health Care Professionals as appropriate. The first meeting of the NSC took place on 2nd December 2020. During the summer of 2021, having completed its planned programme of work, this support function moved to the PHA and the NSC transitioned into a Regional HCAI Working Group, also referred to as the *'HCAI, Regular Testing and Outbreak Group'*. This nosocomial dashboard, developed by the NSC, is an important information management tool which continues to be utilised by all relevant HSC organisations to support the oversight and operational management of Covid-19 incidents and outbreaks. The dashboard facilitates prompt access to relevant information on nosocomial Covid-19 infection, significantly reducing the time taken by surveillance staff working at regional level and Trust staff to monitor and track hospital in-patients with Covid-19.

116. These groups provided information and advice and made recommendations on various aspects of the public health response. They ensured strategic coordination of elements of the response, which was especially necessary during the early months of the pandemic. I also provided other advice to the Minister and the Executive, for example, on NPIs and border travel restrictions. This advice would have been agreed by the CSA and I having considered and taken into account a number of factors including the impact on the 'R' number.

117. By June/July 2020, the Department's response to the pandemic was no longer being managed under ERP structures. The pandemic was by this stage being managed under more business continuity arrangements with the Health Service (including Covid-19) aspects being overseen by a Rebuilding Management Board (RMB) chaired by the Permanent Secretary, which I and/ or my DCMO usually attended. On 22nd October 2020 the Permanent Secretary issued a memo [Exhibits MM/29a - INQ000137358, MM/29b - INQ000137359, MM/29c - INQ000137360, and MM/29d - INQ000137361] setting out the revised structures for the Department's management and oversight of the healthcare system response to the Covid-19 pandemic.

118. Policy and professional staff from within my group participated in, and on some occasions, chaired, subject-specific cells which were revisited and renewed in October 2020 under the overall auspices of the RMB. Also, in October 2020 the Department established a Covid-19 Gold Command Group (CGCG) linked to the RMB. This group acted as a forum for resolving issues and actions escalated by subject-specific cells or the HSC in relation to Covid-19 responses. Although I was a member of both groups, my focus over the following 18 months was on the ongoing and developing public health response to Covid-19, which I oversaw through a number of key oversight groups which I established. These were:

a) The NI SMART (Systematic, Meaningful, Asymptomatic, Repeated Testing) [Exhibit MM/30 - INQ000137362] Programme Board. I chaired this Programme Board which was established in March 2021 to rapidly expand asymptomatic testing for Covid-19 in Northern Ireland;

b) Test, Trace, Isolate, Protect Strategic Oversight Board [Exhibit MM/31 - INQ000137363]: I established and chaired this Board in May 2020. The Board's role was to provide oversight of both the contact tracing and testing programmes. This included the sharing of intelligence on clusters and outbreaks and providing advice in terms of policy implementation and its effectiveness. In April 2022 the Board's Terms of Reference were updated to oversee implementation of the Covid-19 Test, Trace and Protect Transition Plan [Exhibit MM/32 - INQ000137364];

c) Covid-19 Vaccination Programme Oversight Board [Exhibit MM/33 - INQ000137365]: I established and chaired this Board in July 2020 to oversee the end-to-end deployment of Covid-19 vaccine including storage, distribution, and administration. The Oversight Board included key stakeholders from the Department, HSCB (now SPPG) and the PHA and set the direction for the Covid-19 vaccination programme, oversaw the progress of the development and implementation of the programme as well as managed the strategic

interfaces between the expanded 2020/21 seasonal flu vaccination programme and the Covid-19 programme. The Covid-19 vaccination programme was a huge undertaking that developed at pace once effective vaccines were approved for use. Many issues had to be considered by the Board, not least the initial constraint on vaccine supply which meant the supply had to be carefully managed to ensure it was deployed effectively and in line with the Joint Committee on Vaccination and Immunisation (JCVI) prioritisation. This required even tighter controls following a change of dose interval schedule which enabled more people to receive their first dose more quickly. The Board considered and approved resolutions to logistical issues around where and which provider could use the different types of vaccines due to their large pack size, ultra-low temperature storage/ handling and 5 day shelf life. This enabled Northern Ireland to be the first region of the UK to put in place a system that allowed the deployment of the Pfizer/BioNTech vaccine in 480 care homes while still complying with the very strict vaccine handling conditions put in place by the Medicines Healthcare Regulatory Agency (MHRA) at that time. The Board approved a communication plan to keep the public informed and maximise uptake of the vaccine as it became available to the various groups/cohorts. In order to ensure accurate and timely information on uptake rates was available, the Board commissioned the Vaccine Management System which was developed as an end-to-end system from booking appointments, to recording clinical information, to monitoring reports and development of a public dashboard; and

d) Department Covid-19 Therapeutics Oversight Board [Exhibit MM/34 - INQ000137366]: I established and co-chaired with the Chief Pharmaceutical Officer this Board in December 2021 to set the overall strategic direction for deployment of novel Covid-19 therapeutics in Northern Ireland and oversee the development and implementation of a coordinated system-wide approach to deployment. The operational delivery of the treatment of non-hospitalised eligible people was provided by the five HSC Trusts with regional coordination by the Health and Social Care Board (now SPPG) and who chaired the Covid-19 Therapeutics Operational Group. Between December 2021 and January 2023 over 16,000 people had been triaged for eligibility with over 6,300 individuals in Northern Ireland having received these treatments.

Comments on Policy and Delivery Structures

119. As described, many of the structures were adaptations or bespoke for the Covid-19 pandemic. They therefore took some time to bed down and appropriately evolved over time as the pandemic and the challenges changed and evolved. Once fully established they were, in my view, reasonably effective and became increasingly so in ensuring public health and

scientifically informed Executive considerations and decisions and the wider HSC response. This applied to the new arrangements required, which I established or tasked others with establishing, within the Department.

120. At all times of necessity, we had to adopt a flexible and adaptive approach. We had finite capacity and therefore had to make most effective use of extant skills and experience across the system, which was augmented by the input and support of previously retired colleagues. In real terms this meant that we relied on a relatively small number of expert policy and public health colleagues, working across multiple aspects of public health and other policy areas. This provided benefits in relation to the continuity and integration of our response. However, it also posed a real challenge in terms of the sustainability of our response with little or no opportunity to rotate people out for time-limited periods.

121. Ultimately, my team and I, as well as colleagues across the Department, sought to ensure decisions were as informed as they could be and that all aspects of the response were managed and coordinated. From the Department's perspective, these arrangements ensured appropriate leadership, alignment with policy, and provided necessary oversight and governance. An important learning point which I will return to is that while pre-pandemic planning and preparedness are important in terms of identification of strategic themes, the uniqueness of each outbreak will require that any such planning has maximum flexibility and the capacity for adaptation and innovation embedded. Pre-pandemic training should also reflect the need for the associated skills and competencies and the resilience across the Department and wider system in order to maintain a sustained response over a prolonged period of time.

122. In addition to the groups which I have listed, there were also other groups contributing information and evidence which ultimately informed the advice I and my colleagues formulated for the Health Minister. Other contributions were made, for example, by a group of Queen's University Belfast (QUB) academics who provided high level summaries and lists of all relevant scientific papers extracted from monitoring of scientific literature during part the pandemic, in the form of digests.

SCIENTIFIC AND PUBLIC HEALTH EVIDENCE

123. Research to develop scientific and public health evidence to inform policy and clinical practice was crucial in the early stage and throughout the pandemic response. This is considered more fully in Chapter 3 of the UK CMO Technical Report. During the pandemic, one of the main sources of evidence in the UK was the Scientific Advisory Group for Emergencies

(SAGE). The advice and evidence provided by SAGE was developed by assessing and reviewing evidence from multiple different centres of expertise and taking account of the views of a wide range of nationally and internationally recognised experts. SAGE is not a forum which any of the Devolved Administrations has the capacity to fully replicate, nor would it be scientifically or technically feasible nor operationally warranted to duplicate their work.

124. I am not a member of SAGE although the Chief Scientific Advisor (CSA), his Deputy and others represented Northern Ireland (NI) in this capacity and attended SAGE meetings as participants or observers. As CMO I had access to and considered relevant SAGE papers, consensus views and minutes. NI was also represented on a number of SAGE subgroups. Over the course of the pandemic, I chaired, or attended a number of key groups or had access to expert views and recommendations along with a wide range of other scientific evidence and papers. I was assisted in my consideration of these by the CSA and the DCMOs. All of this contributed to the formulation of my advice to the Health Minister. Many of these other groups also considered research evidence and expert opinion from a wide variety of sources across the UK and internationally.

125. I agreed a proposal by the CSA to establish a NI Group specifically to focus on scientific evidence. This group was established in March 2020 and titled the Strategic Intelligence Group (SIG) [Exhibit MM/35 - INQ000137367]. SIG was chaired by the CSA and I attended meetings. SIG considered a wide range of scientific papers throughout the course of the pandemic including those developed by SAGE and provided advice to the CSA and myself. The specific role of the group was to consider the scientific and technical concepts and processes that are key to understanding the evolving Covid-19 situation and potential impacts in Northern Ireland and the approaches to mitigating these. SIG's role was to apply the advice coming to the four nations from the Scientific Advisory Group on Emergencies (SAGE) and other appropriate sources of evidence and information, including from RoI, and use it to inform the Chief Medical Officer (CMO) and the Health Minister to aid with decision making in Northern Ireland during the pandemic.

126. We were also represented on the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) by Professor Stuart Elborn, QUB. NERVTAG is an expert committee of the Department of Health and Social Care (DHSC), with the CSA also attending on occasions. NERVTAG advises the CMO and, through the CMO, Ministers, DHSC and other government departments, providing scientific risk assessment and mitigation advice on the threat posed by new and emerging respiratory viruses and on options for their management. This, along with other scientific information, informed advice to the Health Minister.

127. During the pandemic, our advice to Ministers benefitted from international liaison with other countries, and the rapid dissemination of emerging findings including those findings from scientific papers. As described above, we also benefitted from representation on and expert advice received from, UK groups and in particular SAGE, its subgroups and NERVTAG. We had access to data and presentations at UK Senior Clinicians and the opportunity to share and discuss issues at UKCMO meetings. All these groups and meetings involved the sharing of emerging intelligence on the characteristics of the virus, how transmissible it was, and its clinical severity. This was particularly relevant with the emergence of new variants. We also had access to evidence on the effectiveness of NPIs and behavioural interventions etc. Such cooperation, informed by discussions with the CSA and DCMOs, informed my advice to the Health Minister and consequently to the Executive in Northern Ireland.

128. In formulating advice, due regard was also given to the experience and intelligence emerging from other jurisdictions which was factored into Northern Ireland specific advice. This was relevant as, at various points in time, other jurisdictions were either ahead or behind NI in relation to disease trajectory, its impact and in their experience of new variants. This was therefore highly relevant.

Limitations on Data

129. Scientific and public health advice often needed to be formulated on the basis of limited data. This position is described in Section 1 of the UK CMO Technical report on the Covid-19 pandemic in the UK [Chapter 1, page 60 of Exhibit MM/1 - INQ000217254]. From the beginning of the pandemic, it was possible to assemble data on some of the key impacts of Covid-19 in relation particularly to the hospitalisation of patients and deaths. The most visible presentation of that data was as part of the regular National Press conferences at which for example, the CMO for England and the UK Government presented slides of data. In Northern Ireland the CSA and myself regularly presented similar data at weekly local media briefings, where analyses had to be continually adapted to understand the evolving epidemic [Chapter 4, page 159 of Exhibit MM/1 - INQ000217254]. An apt example is cited in the UK CMO Technical report which states, "*later in the epidemic with high levels of immunity, a less severe variant of concern (Omicron) and high prevalence of infection (from January 2022) meant it was increasingly apparent people were being admitted to hospital 'with' Covid-19, rather than*

'for' Covid-19, based on symptoms and reported diagnoses. This was important for risk assessment and the distinction needs to be adequately captured in data".

130. In respect of the virus itself, initially there were limited hard 'proven' facts about how the virus behaved and particularly on how the virus was spread so that initial risk assessments were based on what was already known about similar viruses [Chapter 1, page 22 of Exhibit MM/1 - INQ000217254]. It took some weeks to collate all the necessary data and established data flows required to comprehensively track the pandemic. One of the factors that also influenced the data availability at the time was the initial constraints on testing capacity. While we had sufficient key data from early in the pandemic to monitor its course and health impacts it took some time before there was sufficient confidence in its completeness and robustness for this data to be put in the public domain. Given that this was in the early phase of the pandemic I do not believe that this materially impacted on the advice provided to Ministers given the interventions being considered at that time. At the outset we did not have the capacity within the PHA to conduct NI specific modelling. This is a matter which has now been addressed. However, early in the pandemic it did require the Department to establish the NI Modelling Group. The specific surveillance arrangements for Covid-19 we have in place now are much more developed than at the outset. At no time were there any specific requests I made for expert advice which were declined. The manner in which my understanding of this (and that of the Department) developed is addressed more fully in Section 1 of the UK CMO Technical report.

131. In the absence of robust scientific information about the virus, as described above, in those early months of the pandemic there was a focus on our knowledge of how similar viruses had behaved in the past alongside the emerging evidence about this new virus. Gaps in our knowledge included an understanding of all characteristics of the virus, its infectiousness, its transmission dynamics (which includes asymptomatic infection), its symptomatology profile, its potential to cause severe illness translating into hospitalisations, ICU (Intensive Care Unit) requirements and likelihood of causing death or long-term health problems. Although methods were developed to understand the proportion and relative infectiousness of asymptomatic infections, from early case and cluster reports, robust data on asymptomatic infections was lacking and estimates varied widely [Chapter 1, page 57 of Exhibit MM/1 - INQ000217254]. Whilst we now have the benefit of evidence arising from three years of research and study into Covid, it may be many years before we have a full understanding of the impact of Covid-19 on the health of our population.

<u>The Development and Use of Data</u>

132. The evolution of data during the pandemic mirrors the evolution of research evidence. In the initial months data was not readily available and there were considerable difficulties accessing even the most basic data to understand the developing situation. This was compounded by data collection issues, for example the fact that testing capacity was limited early in the pandemic. From the start of the pandemic there was a need for data on levels of community transmission, healthcare data on pressures on respiratory beds and intensive care, and data on disease severity including deaths. This data was not readily available, and systems had either not yet been established and if established were not linked. This is considered more fully in the UK CMO Technical report [chapter 4, pages 121-161 of Exhibit MM/1 - INQ000217254].

133. Throughout the pandemic new data sources and information flows were established and developed. The data available to myself and colleagues, particularly in the first few months of the pandemic, was very limited compared to what became available in later months and years. The development for example of the NI Covid-19 dashboards was central to public transparency and in my view helped engage the public with the public health interventions required and the impact they were having.

134. It is now possible to look back and undertake analysis of patterns and trends in a way which was not possible at the time. One of the areas which I will focus on below is what information streams became available and at what point time and how these assisted in formulating advice to Ministers.

The value of 'R' (Reproductive Number)

135. Epidemiological modelling has been an important tool throughout the pandemic to interpret data, to support understanding of the situation, and to assess scenarios based on the potential impact of different interventions. However, there are limitations to extrapolations based on modelling [Chapter 5, page 171 of Exhibit MM/1 - INQ000217254]. The outputs of modelling are not a prediction of what will happen, but an illustration of a range of outcomes which are possible depending on decisions made, evolution of the virus, the extent of population immunity and individual behaviours, among other factors.

136. Using the basic or effective reproduction number (R), to understand how an infectious agent may move through a population is challenging with the development of new variants, changing population immunity, and uncertainties about behaviours. During the height of the pandemic there was a significant media and political focus on the value of 'R'. However, in the context of the scientific advice provided to political representatives, the value of 'R' for Covid-19 cases

was not the only number which was considered. In particular, weight was placed on hospital admissions, hospital bed occupancy, demands for respiratory and critical care support, and mortality data. These are points which were publicly highlighted during the pandemic. On 21st May 2020 an article written by the CSA and entitled 'R is not the only number' was published on the Department's website. The article stated: "*Chief among the other important numbers are those which indicate the current level of activity of the epidemic – the number of new cases per day, the number of patients being admitted to hospital, the number of patients who need critical care treatment, the number of cases and outbreaks in our care homes, and the number of deaths.*" Over time, this list of data from other sources was added as new data collections were developed as the information came on stream.

137. This need to consider a range of data when making decisions was most visibly reflected from the outset in the daily press conferences given by the (then) UK Prime Minister, Boris Johnson, where the emphasis was on both protecting the NHS and on saving lives. Early in the pandemic, the agreed consensus position of modelling groups in the UK was reported through the Scientific Pandemic Influenza Group on Modelling Operations (SPI-M-O) consensus statement for that week. From around May 2020, SPI-M-O began to combine nowcasts using a statistical approach across a minimum of 3, but often more than not 10, models to provide a consensus range. As noted in the 2022 UK CMO Technical report, page 172 [see Exhibit MM/1 - INQ000217254]: "*Over time, these sorts of estimates expanded to different nations of the UK and geographical regions of England. These were produced weekly from 29 May 2020 until 1 April 2022 (with transfer of ownership from SPI-M-O to the UK Health Security Agency (UKHSA) on 23 July 2021).*"

Modelling

138. Modelling has been an important tool throughout the pandemic to support understanding of the situation at a given point in time and to inform understanding and awareness of the potential impacts of different policy choices and options. Early in the pandemic little was known about Covid-19, including the characteristics of the virus, how infectious it was, or the severity of the disease caused, and initial modelling relied on working from first principles with incomplete information and significant uncertainty around underlying assumptions. As more was understood about Covid-19, modelling was developed and refined to reflect the emerging knowledge of Covid-19.

139. A wide range of modelling techniques have been used and these are covered more comprehensively in chapter 5 of the UK CMO Technical report pages 169 to 183 [see Exhibit MM/1 - INQ000217254]. The weekly NI estimate of Rt was a consensus value agreed by the

members of the Modelling group, based on bespoke NI modelling in addition to a range of modelling outputs from different UK groups provided via SPI-M. In describing R in epidemiological terms, the basic reproduction number "R0" of an infection is the expected number of cases directly generated by one case in a population where all individuals are susceptible to the infection. This assumes that no other individuals are infected or immune through previous infection or vaccination. In reality, varying proportions of the population become immune over time. To account for this fact the effective reproduction number (Rt) is used. This is the average number of new infections caused by a single infected individual at time t in the partially susceptible population. When Rt is less than 1, the number of cases will begin to rise more slowly and / or decline. To understand the limitations of epidemiological modelling see Section 5 page 174-175 of the UK CMO Technical report [see Exhibit MM/1 - INQ000217254] where it is identified that "*Models do not and cannot predict what is going to happen. They can only illustrate potential futures*". Modelling can extrapolate trends based on input data and assumptions, but it not possible to predict or forecast precisely when growth may turn into decline, and vice versa, or to estimate exactly how high or low a peak or trough might be. There has been substantial pressure, throughout the pandemic, to 'predict' what might happen next and so communication and stating that this is not the purpose of modelling has been important. This was repeatedly made clear in the R paper and was continually said by the CSA and myself in media briefings and press interviews. This position was clearly articulated by the then Health Minister in a statement on 2nd April 2020 when he said: "*It is important to emphasise again that this modelling work is not a prediction or forecast. All modelling necessarily carries a level of uncertainty. It is therefore prudent to plan for a scenario beyond the reasonable worst case. That is what we are doing*". To reflect the uncertainty which underlies all modelling, both in terms of data and assumptions, modelling outputs were presented to Ministers to include a best case scenario, worst case scenario and reasonable worst case scenario [Exhibit MM36 - INQ000137368], or for a range of potential values of Rt. In almost all cases, the eventual observed outcome fell within the range of possibilities provided for the following 4 – 6 week period. While a range of modelling approaches were considered [Exhibit MM/37 - INQ000137369], the general agreement between observed outcomes and preceding modelling outputs provided a check, and validation of, the approach adopted. In addition, the weekly R paper published by DoH provided each week a range of values within with the current value of Rt was estimated to fall, again reflecting statistical uncertainty.

140. Projections provided by modelling are dependent on the existence of data and underlying assumptions. The more relevant the data that can be built into a model and the stronger the evidence base for necessary assumptions, the more likely it is that the model will produce more reliable projections. At the onset of the pandemic limited data was available about

Covid-19 and there was obviously no available time series of data. Projections were used to extrapolate trends into the short to medium term (a few weeks) to show how current rates of growth or decay would change trajectories of key metrics such as hospital admissions and deaths. This assumed that no policy or behavioural changes affected the trends observed at the time. The assumptions underpinning modelling work in these early months in part derived from how similar viruses had behaved in the past. These projections were of how the value of R was expected to change, in a range of values (upper and lower value) and based on assumptions included in the model. The results of modelling work during the pandemic served as an important tool to aid decision making [Exhibit MM/38 - INQ000137370]. It is important to have a proper understanding of the value and limitations of modelling data to project likely future trends and the need to consider other health relevant data.

141. At my request Northern Ireland established its own modelling group chaired by the CSA and which I attended regularly from January 2021. This group produced NI specific modelling and considered UK wide, and NI specific modelling produced by other groups. The Modelling Group produced the weekly R paper for the Executive's consideration. In addition, the Strategic Intelligence Group (SIG) which had been established and chaired by the CSA, also considered significant scientific papers in the context of the weekly R paper and modelling and consideration was given to relevance of emerging findings in the context of the policy and approach in NI. This work was supported by academics and public health specialists in NI. The results from this modelling were considered alongside SPI-M-O modelling and were published as weekly summaries for the Executive and public in the 'R' Papers.

142. The initial estimates of the potential impact of the pandemic in Northern Ireland were based on the SAGE (SPI-M-O) consensus estimates of the 2nd March 2020 extrapolated for the Northern Ireland population. On the 1st April 2020 the Department announced the consensus estimates of the NI modelling group based on the outputs from several different models. This informed further intensive hospital planning for the anticipated surge in Covid-19 cases. This modelling outlined a reasonable worst-case scenario, based on assumptions including social distancing measures producing a 66% reduction in contacts outside of the home and workplace. In addition, it was anticipated that 70% of symptomatic cases would adhere to self-isolation. The modelling group's best judgement at that time was that this would lead to a peak number of 180 Covid-19 patients requiring ventilation and critical care beds during the first wave of the pandemic. The modelling assessed that the peak number of Covid-19 hospital admissions would be 500 per week. Under this reasonable worst-case scenario, the projected number of cumulative Covid-19 deaths in Northern Ireland over 20 weeks of the epidemic was calculated to be in or about 3,000. The modelling indicated that the peak of the first wave of the epidemic was expected to occur between 6th-20th April 2020.

NON-PHARMACEUTICAL INTERVENTIONS

143. In the early stage of the pandemic and in the absence of vaccine and drug treatments (medical countermeasures) the only effective countermeasures that were available were societal and social and as discussed above, these became known as NPIs. Given the predominant respiratory route of infection, and the greater risk to older people and those with underlying health conditions this determined the choice of NPIs. It was important to explain as we did on many occasions to the Executive and to the public in media interviews that it was the culminative impact of packages of NPIs that was important as opposed to the individual impact of any one element in reducing R. A fuller analysis of all these interventions is reflected in Chapter 8.1 of the 4 UK CMO Technical report, pages 270 to 283.

144. I provided advice which I had agreed with the CSA and which I approved for the Health Minister's and subsequently the Executive's consideration in relation to the need for the full range of NPIs including advising on combinations of these and the use of what became to be known as "lockdowns," "circuit breakers," and "local restrictions" as these were applied in Northern Ireland. My role as CMO, in conjunction with the CSA, was to provide this advice based on the infection rates and trajectory of the pandemic in Northern Ireland. When established, SIG considered the evidence emerging from SAGE and other sources, alongside NI data on the trajectory of the pandemic, much of which also fed into NI modelling. Taking account of the evidence and analysis considered by SIG and other expert advisory groups, (with the support of the CSA) I provided advice to the Health Minister and the Northern Ireland Executive on the necessity of NPIs to interrupt community transmission, reduce hospitalisation and severe disease and death, and to prevent the health service becoming overwhelmed.

145. This advice was informed by the analysis of, as close as possible to real time, data which was essential to providing context to the advice that I gave to Ministers. The analysis of this data fed into my advice, which in turn was used to inform policy decisions on community transmission, the course of the pandemic, and the impact of NPIs on transmission and health service pressures. My considerations included analysis of data on the numbers of cases; the numbers of people admitted to hospital and numbers with severe disease requiring oxygen or intensive care; numbers of outbreaks in particular settings including care homes and hospitals and performance data on the contact tracing service (CTS). It was also important to assess the impact of NPIs, and levels of public adherence to the restrictions. That information was available through the consideration of mobility data; analysis of contact patterns and behaviours; and surveys of people's attitudes.

146. These were all factors that informed, and which were referred to in my advice which was considered by the Executive. Over the course of the pandemic, bespoke surveillance data became established, and included data extrapolated from the Covid-19 dashboard, the Stop Covid-19 App, the UK wide Office for National Statistics Survey, and Waste Water Surveillance data. These data sources were all developed during the pandemic and are now separately accessible.

147. As vaccines and drugs became available the contribution of, and necessity for, NPIs became less, although for the first two years there was a heavy reliance on NPIs. It was recognised that the NPIs had significant societal, educational, and economic consequences. Therefore, for Executive Ministers, the choices in respect of NPIs represented a series of difficult decisions about the least-worst options. As such the Executive had agreed that NPIs individually and collectively would only remain for as long as was necessary to protect the public and the health service from being overwhelmed. To assist with this decision making and to ensure openness and transparency about the basis on which these decisions would be made, on 12th May 2020 the Executive published a paper entitled "Executive Approach to Decision-Making" [Exhibit MM/39 - INQ000137371]. This paper set out the five 'Guiding Principles' for future Executive decisions on regulations. These five principles were also at the forefront of my mind when I was providing advice to Ministers in respect of NPIs. However, I am clear that I was also taking account of all the scientific, public health and clinical evidence available at that time, and that, in respect of NPIs, I ultimately had to make a judgement in the advice that I provided. I recognise fully that others could arrive at different judgements, and that as the decision makers, Ministers made their own judgements and decisions on the proportionality of any response.

148. The five Guiding Principles identified in the Executive approach to Decision-Making paper were:

- **Controlling transmission**. Progress on the path of recovery depends primarily on controlling the rate of transmission. The key metric for this purpose is the reproduction number 'R'. A restriction or requirement should only be relaxed when there is a reasonable prospect of maintaining R at or below 1.

- **Protecting healthcare capacity**. The healthcare system should have sufficient capacity to treat Coronavirus patients while phasing in the reintroduction of usual health and care services. The system should not be allowed to be overwhelmed by a second or subsequent wave of the pandemic.

- **Necessity.** In accordance with the terms of the Regulations, a specific restriction or requirement should be retained only as long as it is considered necessary to prevent, protect against, control, or provide a public health response to the incidence or spread of Coronavirus.

- **Proportionality**. The detrimental impacts on health, society and the economy that can reasonably be attributed to the restriction or requirement should be tolerated only as long as the risks associated with withdrawal or modification are assessed to be more severe.

- **Reliance on evidence**. Proposals for change or for the retention of a restriction or requirement should be informed by the best available evidence and analysis.

149. After describing these five guidelines, this section of the Executive paper states *"In addition to drawing on the WHO guidelines, our guiding principle of proportionality ensures that the Executive will consider at every stage whether the benefits of the restrictions in controlling transmission and protecting health service capacity continue to outweigh and justify the very significant damage the restrictions are inflicting on our society, economy and wider health outcomes"*.

150. These guiding principles also underpinned the subsequent Departmental advice to the Executive on the implementation and easing of restrictions.

151. Some of the NPIs, particularly in the early stages such as travel restrictions, were intended to slow the importation of cases and later to slow the arrival of new variants until these were better understood. Other NPIs such as social distancing, cleaning of surfaces, handwashing, face coverings and the move towards meeting outdoors were designed to reduce the risk of someone becoming infected. The introduction of widespread testing and contact tracing allowed the identification of people who had been infected. This, along with limiting the number of households that came into contact, working from home, and the closure of hospitality and schools, contributed to behavioural change. The consequent reduction in interaction prevented complex chains of infection becoming established. In addition, advice was provided to those most at risk - the clinically extremely vulnerable - to take significant additional measures to reduce their risk of infection. This was known as "shielding".

152. As described earlier in my statement given that this was a new virus, many of the important policy decisions early in the pandemic had to be taken when much less was known about the virus, including modes of transmission, the relative importance of asymptomatic infection, common transmission settings, and severity of disease and mortality across the population

including in respect of those most at risk. It was also the case that the population had not previously encountered the virus, had little or no immune protection and the number of people experiencing severe disease and deaths were likely to be high. The development of "herd immunity" was never considered as a viable strategic response to the pandemic by the Department or the Executive. The level of transmission in the early stages of the pandemic required the extensive use of NPIs and "lockdown" to get R below 1, the approach which had been agreed by the Executive. This was necessary to prevent excessive deaths and to prevent the health service being overwhelmed.

153. Differences in levels of community transmission and the timing of the emergence of Covid-19 variants occurred internationally, across the common travel area (CTA), between the UK and RoI and even within regions at a local government district level. These differences occurred with respect to both the timing and severity of Covid-19 'waves' of infection. Consequently, in England, Scotland and the RoI a differential approach to restrictions was taken and what were referred to as "tiers" or "levels" were applied with respect to packages of NPIs determined as being necessary in certain geographical areas at various times to reduce levels of infection and to reduce health service pressures.

154. The advice from myself and other CMOs was specific to the level of community transmission of disease and the trajectory in respective jurisdictions. Notwithstanding this, we recognised the importance of public understanding and consistency of message, together with the need for the public to understand when there were differences in guidance and NPIs being taken. As such we kept each other generally informed of the range of general options being considered by Ministers, recognising that the decisions were ultimately for Ministers. In general, however, there was more commonality than difference in the approaches of the respective jurisdictions. There are of course differences in geography, population density, urban versus rural composition, age profile, ethnicity and socioeconomic factors, all of which undoubtedly played a role in this variation in community transmission at various times. Ensuring an understanding of these differences was not always straightforward in public messaging.

LOCKDOWN, CIRCUIT BREAKERS AND LOCAL RESTRICTIONS

Lockdown

155. "Lockdowns" were very effective in reducing transmission of the virus. It was subsequently estimated by SAGE that the first lockdown in March 2020 resulted in a reduction in the reproductive number (R) from an estimated 2.5 to 3.0 to an estimated 0.5 to 0.7. This was only achieved by the support and many sacrifices of the public who made great efforts to follow

the rules and guidance. The effectiveness of this measure and the adverse consequences are considered more fully in the UK CMO Technical report on the Covid-19 UK pandemic, Chapter 8, pages 250 to 255.

156. The decision to implement the first lockdown in Northern Ireland was made at the same time as the decision in other UK jurisdictions. However, this was at a relatively earlier point in the first pandemic wave in NI as compared for instance to London. This earlier lockdown was beneficial in controlling community transmission, and reducing hospitalisations, severe disease and death during the first wave. However, consequently, in the absence of a vaccine, once restrictions were eased, fewer people in Northern Ireland had acquired natural immunity following infection. This may have resulted in more extensive later community transmission in NI compared to other parts of the UK in later stages of the pandemic.

Local restrictions and "Circuit Breakers"

157. On 10th September 2020 the Executive considered and agreed a paper from the Department recommending the introduction of local restrictions in Greater Belfast, Ballymena and three postcode areas from 16th September 2020. Following the Executive's agreement and an urgent written statement to the Assembly by the Health Minster on Thursday 17th September 2020, a further postcode area was added by direction from 18th September 2020. However, within two weeks it became clear that the restrictions needed to be extended to cover all of Northern Ireland and following Executive agreement on 21st September 2020, a direction extended local restrictions to all NI postcodes from 22nd September 2020.

158. Following Executive agreement on 1st October 2020, amendment regulations introduced enhanced restrictions in the Derry and Strabane district area from 6th October 2020. Following Executive agreement on 14th October 2020, amendment regulations revoked the specific restrictions on Derry City and Strabane District Council area and introduced restrictions for a period of four weeks across the whole of Northern Ireland from 16th October 2020.

159. As described above, supported by the CSA I advised the Health Minister on the need for local and wider restrictions. This advice was subsequently considered by the Executive in a paper from the Health Minister. As described earlier, this advice was informed by analysis of data on the numbers of cases; the numbers of people admitted to hospital, numbers with severe disease requiring oxygen or intensive care; numbers of outbreaks in particular settings including care homes and hospitals and performance data on the contact tracing service (CTS).

Working from Home and closure of specific settings

160. With consideration to the five guiding principles and the Executive's Commitment to controlling transmission and protecting health service capacity and keeping the reproductive number (R) below 1, I also provided advice (supported by the CSA) on the impact of working from home and the closure of specific settings such as hospitality non-essential retail, close contact and personal care, and leisure settings or places. Working from home was one of the NPIs with the greatest impact in terms of reducing transmission affecting significant behavioral change and reducing both transmission in the workplace and in travel to and from and social activities associated with work. In late 2020 SAGE estimated that around a third of contacts were associated with work and related activities. It is however recognised that these measures had a significant and disproportionate impact on many sectors and not everyone could work from home. This had further implications for disparities. This is considered more fully in the UK CMO Technical report on the Covid-19 pandemic in the UK, Chapter 8 pages 247 to 250.

Face Coverings and use in the community

161. At the outset of the pandemic there was inconclusive evidence of the benefits of widespread use of face coverings in the community and concerns about inappropriate use, this is reflected in the interim World Health Organization (WHO) guidance. However, as evidence of the routes of transmission and the effectiveness of face masks evolved this was updated in June 2020 to recommend their use in the community [Exhibit MM/40 - INQ000137372]. Towards the end of July 2020 as the first lockdown was gradually lifted, face coverings became mandatory in a range of settings including public transport and shops [Exhibit MM/41 - INQ000137373]. I provided advice (supported by the CSA) to the Minister for Infrastructure on the relative benefits of their use on public transport and to the Health Minister and subsequently the Executive on the relative benefits in reducing rates of infection in a range of settings primarily in indoor environments with poor ventilation. It was also recognised that some people were unable to wear face coverings for a variety of medical reasons. The disadvantage of their use was also recognised, for instance, in schools, when interacting with older people or those with a hearing impairment. In the advice provided we indicated the importance of widespread use with at least 80% of people using face coverings to achieve the benefit. The Executive also considered and debated the evidence I along with the CSA provided on increased adherence and therefore additional benefits of making the use of face coverings mandatory. Following the Executive's decision to make the wearing of face coverings mandatory in certain settings as indicated above, CMO Group staff also took

forward the development of the Health Protection (Coronavirus, Wearing of Face Coverings) Regulations (NI) 2020. This measure is considered more fully in the UK CMO Technical report on the Covid-19 UK pandemic, Chapter 8, pages 244 to 245 [see Exhibit MM/1 - INQ000217254].

Travel Restrictions

162. With respect to travel restrictions, the key factor determining the appropriateness of these from a scientific and public health perspective is their impact on the respective rates of infection. These matter most when there is a very low level of infection locally but higher rates of infection elsewhere. This was particularly important at the very start of the pandemic and allowed time to consider further control measures. However, the extent of that delay in introducing further infection is measured in days or weeks. When transmission within the UK or Northern Ireland was high, imported cases were such a small proportion of cases that they made little in the way of significant difference to the epidemic. When locally the incidents and prevalence of cases reduced and was low, imported cases naturally formed a much higher proportion of cases, and in those circumstances, the importance of preventing cases being imported through international travel became much more important. This was also relevant in respect of the emergence of new variants. Initially data from the "typing" of virus was not available and there were significant differences in the availability of this in different countries which was further compounded by the time necessary to carry out the specialist "typing" [Whole Genome Sequencing (WGS)] required. This is considered more fully in the UK CMO Technical report on the Covid-19 UK pandemic, Chapter 8 pages 253 to 255 [see Exhibit MM/1 - INQ000217254].

163. While UK border policy and operations are reserved matters, health policy is devolved and as such the UK Government consulted with the Devolved Administrations on health protection measures at the border. The Department's policy underpinning these Regulations was informed by information on the risks associated with international travel. This was provided from UK Government national analysis by the Joint Biosecurity Centre (JBC), which took account of the reliability of epidemic surveillance data and quantitative information about numbers of cases, trajectory, and the monitoring for variants. All this information was reviewed and considered by the CSA and myself, and we provided advice to the Health Minister. We also considered any information available on international travellers entering the Republic of Ireland before travelling on to NI, although the extent of this information varied during the pandemic.

164. Given the variation in transmission and rates of infection and the extent to which new variants had become established in the various jurisdictions within the Common Travel Area (CTA), (UK, Guernsey, Jersey, Isle of Man and the Republic of Ireland), the CSA and I also provided advice to the Health Minister and the Executive on measures to delay the impact on Northern Ireland. Consequently, while not in legislation, NI provided guidance for individuals travelling within the CTA. This guidance, when in place, requested that if travel involved staying overnight in Northern Ireland, a rapid lateral flow device (LFD) test should be taken before beginning the journey, only travelling if the test was negative and the individual was not suffering from any Covid-19 like symptoms. The completion of a passenger locator form (PLF) was not required unless the individual had been outside the CTA in the previous 10 days. In addition, the guidance also recommended taking LFD tests post arrival.

SCHOOLS

165. During the pandemic the approach to schools was one of the more challenging areas given the recognised educational, social and health benefits to children of being in school, and the significant contribution of education in improving life chances and in reducing health inequalities and disparities experienced by children. The task of maintaining children in schools while reducing the risks of transmission and outbreaks with consequential schools closure was complex.

166. At the start of the pandemic the short-and longer-term impacts of Covid-19 on children in general were not known although children were observed to have generally milder symptoms. Nor was the role that children played in the transmission of Covid-19 fully understood or indeed the relative contribution that transmission of infection in the school setting played as distinct from transmission in the home or through other social contacts. In the early stage of the pandemic there was significant debate as to whether school restrictions and/ or school closures were necessary in addition to other NPIs, and this uncertainty was reflected in SAGE discussions. For some infectious respiratory viruses such as influenza, children while generally experiencing mild disease can act as "super spreaders", increasing community transmission. While undoubtedly mixing in schools provided opportunity for transmission of the Covid-19 virus, it was recognised that the closure of schools would have significant implications for children's education and their well-being given the important public health benefits that attendance at school has for children's physical and mental health. In addition, it was also recognised that school closures would be likely to present further challenges in respect of childcare arrangements for essential workers. It was therefore important to try and achieve a balance between no intervention in schools and the risk of increased transmission of the virus, and intervention to the extent there could or would be a disproportionate impact

on children's education, social development and future life opportunities. In the context of the early evidence available and an assessment of the benefits in terms of reduction in transmission, when weighed against the harm to children and the wider societal impact, I advised that there was insufficient evidence at that time to advise that the immediate closure of schools was proportionate. The difference in the timing of the decision on schools' closure between NI and the RoI was the source of political and media commentary. The wider issue of the approach to the closure of schools was however a complex matter; the considerations are described more fully in the UK CMO Technical report on the pandemic in the UK, Chapter 8.1, pages 270 to 282 [see Exhibit MM/1 - INQ000217254]. In March 2020 the consensus view taken by SAGE was that school closures represented one of the least effective single measures to reduce the peak of the pandemic wave. At this time SAGE did note, however, that school closures may indeed be necessary to ensure sufficient capacity within the health service. The first attendance restrictions came into place on the 20th of March 2020 however schools did remain open for face-to-face learning for vulnerable children and the children of essential workers.

167. A range of key measures were implemented in a variety of education settings throughout the pandemic response. This included: social distancing; hand washing; segmenting students into class "bubbles;" regular asymptomatic testing; wearing of face coverings; contact tracing and isolation and advice on outbreak management and ventilation. Given the associated complexities and requirement to provide detailed advice, in the summer of 2020 a group was established to coordinate the provision of public health advice and expertise to the schools sector in support of the Department of Education (DE) and the Education Authority (EA). Membership included the DE, the EA, the PHA and the Department, and this group was chaired by myself as CMO in the early stages of its work. Meetings of this group brought together senior staff from the respective departments and organisations. It provided an opportunity for health and education to formally meet to discuss issues and for the Department and PHA to provide DE and EA with policy and public health advice relevant to the management of Covid-19 in schools. It remained DE and the Education Minister's responsibility to determine the policy on school closures and the use of NPIs in schools in addition to producing detailed guidance for schools on how to mitigate the risk of Covid-19 transmission on which the PHA and the Department advised. The PHA also operated an advice line for schools in the initial period of the pandemic response, this function was later transitioned to the EA as their knowledge and experience of managing Covid-19 increased. The PHA continued to have regular liaison with EA, and at times with DE to advise on specific areas. There was frequent liaison between PHA and EA and this included training of senior EA staff to provide support for schools. A range of communications and resources for schools

and other education settings was produced by the PHA, with policy input as required, and shared with EA for dissemination to all schools.

168. Meetings of this group continued throughout 2020 and 2021 overseeing and advising on a wide range of policy and operational considerations. This advice included the development and implementation of a programme for testing asymptomatic children. In November and December 2020, with my Department's and DE's endorsement, the PHA and EA worked together to pilot lateral flow testing in two secondary schools. The policy intent was to use testing to reduce transmission of Covid-19 in schools by finding asymptomatic cases, advising them to isolate, with the aim of reducing the potential for transmission in schools and, in turn, minimising the negative educational impact of children either needing to be out of schools or for schools to close. The initial testing of these arrangement was completed before Christmas 2020. Schools moved to remote learning in January 2021 while still providing for vulnerable children and children of key workers with schools for children with special education needs remaining fully opened in January 2021. These new asymptomatic testing arrangements were in place to facilitate the subsequent reopening of schools, which followed in April 2021.

169. At a UK level, in August 2020 [Exhibit MM/42 - INQ000137374] as the 4 UK Chief Medical Officers, we published a consensus statement summarising the current evidence of the risks and benefits to health from schools and childcare settings reopening. We concluded that while the reopening of schools would put some upward pressure on community transmission that we were confident that schools were much less important in the transmission of Covid-19 than for influenza or some other respiratory viruses. Initially close contacts in education settings were managed in the same way as for adults and contact tracing was conducted within schools. This led to a high number of close contacts being identified from a single case in the early phases of the pandemic and many staff and students experiencing significant periods of isolation which impacted on children, parents and carers, particularly those from low-income families. With the later increased community prevalence of Covid-19, combined with large numbers of children still being identified as close contacts of confirmed cases the group reviewed and provided further advice on the policy for contact tracing and isolation in schools. This advice also took account of the further evidence which emerged on the relatively low attack rate within schools. With the agreement of the Education Minister and the Health Minister the approach to the management of Covid-19 in schools changed, with effect from 10th September 2021, with a view to maintaining a more proportionate balance between reducing transmission in the school setting and the harms caused by children missing school. This updated guidance advised that only those children or teachers who were the very closest contacts – such as those sitting beside the child should be identified as a close contact and asked to isolate, subsequent detailed communications issued to all

schools setting out the new advice. Changes were also made at this time (September 2021) to arrangements for the operational delivery of contact tracing in schools with responsibility transferring to the PHA based CTS to help reduce the administrative burden on teachers and schools.

170. Maintaining the confidence of pupils, parents and teachers was important in the approach to schools, particularly in the context of changing advice and guidance. For example, I met on a number of occasions during this time with headteachers and representative bodies. I also wrote a letter to all parents, children and staff in schools in Northern Ireland setting out the rationale for the change in approach and explaining the change in risk profile given the high levels of vaccination at population level. From September 2021 schools operated in a much more usual way, albeit with measures to reduce transmission in place. The leadership and support of teachers and the commitment and efforts of parents were significant and are to be commended.

171. Over and above the arrangements outlined above I provided advice to DE officials and to the Education Minister in meetings and in briefings. Invariably this was with the CSA and/or Deputy Chief Scientific Advisor (DCSA). This advice also took the form of circulars, CMO letters and advice which fed into DE letters to schools and parents, as I have indicated. In addition, advice and support was provided to a wide range of further and higher education settings and universities including advice on NPIs, testing and students travelling home, especially during holiday periods, and on arrangements for regular asymptomatic testing. Examples include, but are not limited to considerable public health advice and input, including in relation to testing and self-isolation, into sectoral guidance for university and further education students to help facilitate a safe return home at the end of term in December 2021, and into updated guidance for return to study for the new term in January 2021.

172. Since April 2021, following a successful pilot programme, all Special Schools in Northern Ireland participated in an asymptomatic testing programme using LAMP (loop-medicated isothermal amplification) saliva-based testing. Testing was made available to all staff and students on a weekly basis through partnership working involving Queen's University Belfast (QUB) LAMP processing laboratory, the DE, the EA and the PHA. The provision of saliva-based testing was chosen to enable testing of children with Special Educational Needs who would not be able to tolerate regular nose and throat swabbing. The key aim of the programme was to find asymptomatic and pre-symptomatic cases early so they and their contacts could be isolated and therefore helping reduce the risk of transmission in the school setting. Asymptomatic testing in Special Schools later switched to testing using Lateral Flow

Devices (LFDs) in January 2022 following the availability of nasal only swab LFDs as again these were considered easier for most children in special schools to use.

COMMUNICATION: INFORMATION SHARING, OPENNESS AND TRANSPARENCY

173. Covid-19 was the first pandemic to take place in the context of modern media communication. This afforded opportunities to use multiple media modalities to share information with political representatives, HSC staff and the general public. It also provided the opportunity for expression of alternative views, which was to be welcomed in encouraging informed debate when thoughtful and informed. Regrettably the expression of alternative views was not always on a rational or informed basis.

174. One of my key roles throughout the pandemic was to ensure that the public were informed of the risks and the action they could take to keep themselves and their families safe and in protecting the health service. The Department and CMO Group worked closely with the PHA in developing this advice. The Department developed and issued several 'Apps' and versions of Apps which, alongside guidance published on NIDirect also assisted in keeping the public informed of the latest guidance on Covid-19. These Apps also assisted with contact tracing. The CMO Group staff and I were involved in the development and updating of many aspects of this advice.

175. The response of the public and their collective efforts, particularly given the significant impact of the NPIs' restrictions and guidance on their lives and livelihoods, was quite remarkable. Undoubtedly many more lives would have been lost had the public not cooperated to the extent that they did. In my view the key to this cooperation was the public's understanding that we were open and transparent in relation to what was known and what was not, as well as being candid about the degree of uncertainty and an understanding of the rationale for what was being asked. I believe this contributed to building and maintaining public confidence and trust in those who provided the messages that were communicated. This level of public trust will be as essential in any future pandemic.

176. From the information available to us from behavioural sciences it was also important that the public could see and understand the contribution and difference they were making. While not the primary purpose, I believe that the establishment of the public-facing Covid-19 dashboard to enable transparent data sharing on cases, disease progression and trajectory along with the publication of the weekly R paper and the media's reporting and coverage of this were instrumental in further securing and maintaining the engagement, support and trust of the public. There was on occasion extensive political, and media commentary both nationally and

within Northern Ireland when there were alleged breaches of the Covid-19 restrictions. However, I have no evidence base which would permit me to comment on the objective impact, if any of any such coverage.

177. Given my role as CMO, I was very engaged in the overall communications approach and planning. This included: participating in press conferences; daily engagement, along with the CSA, with the Department's Director of Communications; regular weekly meetings between the Minister, Permanent Secretary, CSA and myself; engagement with Executive Information Service (EIS) to develop and review NI specific public health campaigns and to advise on the suitability of material developed by the UK Government for NI; professional and public health input to content of all press releases and written material; regular media briefings and press engagements on radio and television to assist with public-facing communications; requesting and working with the PHA to develop public facing communications materials; and direct engagement with relevant partners, for example with local councils, faith groups, retailers, hospitality group and the education sector.

178. In addition to extensive media briefings, there were a large number of press releases at every stage of the pandemic, many of them reflecting my advice and comments and those of the CSA. I provided briefing to the Health Minister and on occasion the FM and the dFM in advance of their media appearances. I also personally participated, often alongside the CSA, in multiple press conferences and radio telephone phone ins. I gave numerous media interviews with TV, Radio and the printed press media. Media campaigns and interviews were organised by the Department's Information Office and, or TEO Press Office and were often accompanied by Press Releases. Decisions by the Executive, for example in relation to NPIs and the reintroduction or relaxation of wider restrictions were described in press releases from the Executive and reflected the decisions of the Executive following consideration of all the advice provided to them.

179. In October 2020 the Department published an 'Evidence Bank' of evidence papers to provide public access to the emerging evidence base that was informing policy advice. From 15th November 2020 onwards the Department published some 'mythbuster' articles intended to combat misinformation and misunderstandings about Covid-19 and the action taken in response to the pandemic.

180. As CMO, I issued (as necessary) circulars and guidance to the HSC, sometimes in conjunction with other Chief Professional Officers, with the intention of keeping health service staff fully informed on developments on testing, contact tracing, therapeutic interventions, restrictions and NPIs, including travel restrictions and vaccination.

PUBLIC ENGAGEMENT

181. The CSA and I supported engagement by the Executive Enforcement Group with a range of organisations and sectors. These meetings were generally organised by TEO and occasionally by individual departments with relevant sectoral interests. This included meetings with local government, the retail sector, hospitality sector, entertainment sector, the NI sporting codes and organisations (Ulster Rugby, Gaelic Athletic Association, Irish Football Association), events sector and faith leaders. At such meetings, we shared information on current restrictions and the trajectory of the pandemic. I also shared intelligence that might suggest a potential need for increased adherence to NPIs etc. and relevant sectors raised matters/concerns, and sought advice or support, where relevant. The CSA and I also raised issues and shared papers with the Executive's Adherence Group which was established by TEO as a subgroup of the Executive Taskforce in response to the Health Minister's request to the Executive for a greater emphasis on enforcement and adherence to NPIs.

182. I believe that this engagement and cooperation with other departments and respective sectors was instrumental in securing cross-sectoral support for what were far reaching and draconian measures with significant impacts on wider society and the economy. As time went on, clearly the impact of NPIs on certain sectors, such as hospitality and close contact personal services, became increasingly difficult given the significant economic consequences despite the support provided to some. The engagement for example with Faith Leaders resulted in all the measures to reduce transmission in places of worship remaining as advice and guidance with only the rules on face coverings requiring legislation. There was significant and positive engagement with the sporting codes, the entertainment and events sector, and local councils. I believe this was important in securing understanding and support for the restrictions and in turn these sectors were supportive in the roll out of the Covid-19 vaccination programme and in supporting wider community testing. Similarly significant elements of the events sector were actively supportive of the Covid-19 domestic vaccine certificate policy decision to allow the reopening of venues. This, along with their proactive support of the vaccination programme, undoubtedly had a positive impact on vaccine uptake, particularly in young people. Junior Ministers and TEO officials regularly provided summary feedback of such engagement at Executive Meetings.

DISPARITIES IN THE PANDEMIC

Clinically Extremely Vulnerable (CEV), Vulnerable and at-Risk Groups

183. Experience indicates that epidemics and pandemics highlight and exacerbate existing health inequalities and disparities such as those associated with socioeconomic deprivation, ethnicity, sex, age and sexuality. There were many individuals and communities disproportionately affected by the Covid-19 pandemic both directly and indirectly. This was an important consideration throughout the pandemic response. Given the nature and spread of Covid-19 and its impact there was (and is) no divergence of views in the steps and interventions that were required to slow spread and to protect those most at risk among the 4 CMOs. With uncertainty and the emerging nature of some aspects of the evidence there will always be debate and a range of expert professional opinion which is to be welcomed. Where there were divergent views, these were reflected in for example consensus advice from expert advisory groups such as SAGE. Such disparities arise either because of a difference in infection risk, risk of more severe disease and mortality or the wider consequences of the public health measures taken to control the pandemic. Many across society were more 'at risk' or 'clinically vulnerable' throughout the Covid-19 pandemic either because of a greater risk of exposure to infection, a greater risk of more severe disease or because the NPIs and restrictions introduced had a disproportionate impact on their personal and family circumstances, education, livelihood or health and well-being. For example, the closure of hospitality and leisure had significantly greater economic impact on individuals employed in these sectors, and a greater proportion of those who were affected are women and of younger age. With Covid-19 those at increased risk of infection included those at greater occupational risk in public facing roles; those who were unable to work from home; those from lower socioeconomic groups living in crowded or multiple-occupancy housing, who often in addition found it difficult to work from home or self-isolate for financial reasons.

184. This is considered more fully in the UK CMO Technical report on the Covid-19 pandemic in the UK Chapter 2, pages 87 to 105 [see Exhibit MM/1 - INQ000217254].

185. Other people were more vulnerable to a poor outcome of Covid-19 infection because of age, ethnicity, obesity or other underlying condition and others still had been identified as clinically extremely vulnerable (CEV) based on evolving clinical data. Initial reports from China in January 2020 indicated that Covid-19 led to worse outcomes amongst older men. Over the succeeding months additional data emerged from China, and later Italy, which suggested that people with certain underlying conditions were at increased risk of death and disease. As cases began to appear in the UK, the First Few Hundred (FF100) surveillance protocol provided basic information about the clinical presentation of the first cases and a description of the people affected. This provided early indications of key populations at greater risk. Later hospital admission data confirmed the increased risk of hospital admissions for older adults and in particular older men including those with certain underlying conditions and this

was also reflected in Intensive Care admissions. Further details of this are considered in Section 2 of the UK CMO Technical report [see Exhibit MM/1 - INQ000217254] including the measures taken in mitigation.

Shielding

186. Throughout the pandemic there was a focus on protecting the most vulnerable in our society. This was, for example, reflected in the introduction of "shielding" for those who were at significant increased risk, including those who were later defined and described as being in the cohort of the Clinically Extremely Vulnerable (CEV). Ultimately the most effective way to reduce the threat of Covid-19 for those people who were most at risk was to reduce overall community transmission. Central to the approach was the advice not to leave home unless it was essential which became known as "shielding". This also included specific additional advice for those living with these individuals while wider NPIs reduced community transmission. This advice was accompanied by support with food and medicine deliveries for example. The voluntary and community sector, many organisations, local communities and the Department for Communities played a major role, and the sense of community support was impressive. This approach to "shielding" is considered more fully in the UK CMO Technical report on the 19, Chapter 8, pages 255 to 259 [see Exhibit MM/1 - INQ000217254].

187. As CMO, I and my DCMOs were fully engaged in UK CMOs and UK expert panel review of emerging evidence and discussions to identify those most at risk. This work also considered approaches to protect the most vulnerable including the ongoing review of the appropriateness and proportionality of these measures given the significant impact in terms of loneliness, isolation and mental health. In concert with other UK nations, I advised on the recommendations in relation to "shielding and the CEV cohort". The Department's approach was informed in due course by our participation in the UK National CEV Group and consideration of SAGE guidance. In the early months of the pandemic much of the focus was on shielding and this work was led within the Department by primary care policy colleagues with the work supported by the DCMO, Dr Naresh Chada. By October 2020, as part of our response, I proposed the establishment of a Clinically Extremely Vulnerable Operational Cell within the Department to identify CEV group and cohorts in NI, to focus on their specific needs with a view to tailoring individual correspondence.

188. There were information and IT system challenges in Northern Ireland in identifying those as significant increased risk including the CEV population compared to GB as it was not possible to carry out an automated clinical records search. Given the urgency of the requirement to identify this cohort, clinicians in primary and secondary care and their teams worked diligently

at pace to identify these individuals. Consequently, there was some duplication of correspondence. Once the cohort had been identified, I corresponded directly with CEV group on several occasions through GPs and HSC Trusts or provided updated advice on NIDirect communicating the changing risks and advising of revisions in the guidance and advice until this was replaced in July 2020 as shielding was no longer regarded as proportionate. Again, this was an example of the collective working between the Department, the then HSCB (now SPPG), the secondary care services in hospitals, and primary care teams. Through this time the Health Minister, myself and the Department regularly communicated with the CEV population, ensuring they were aware of the latest developments with shielding and the latest guidance.

189. Given the recognised adverse impact of "shielding" on those affected, I commissioned the Patient and Client Council (PCC) to undertake research into the views and needs of the CEV population. This survey highlighted that fear of Covid-19 and the associated risks were the main concern among those who responded. In addition, a significant number indicated the adverse social and psychological effects of shielding. A key priority for those shielding was that they were kept informed with clear advice and guidance, including an understanding of the scientific basis for the advice. A considerable number of respondents felt that those shielding were often 'forgotten' or 'ignored' as changes to guidance and restrictions for the wider population were announced. We sought to incorporate these findings into further advice and guidance.

190. The CMO Group was fully engaged in the Public Health England (PHE) work on evidence emerging in relation to the impact on Black and Minority Ethnic (BAME) communities. This is covered more fully in the UK CMO Technical report, Chapter 2, pages 89-90 [see Exhibit MM/1 - INQ000217254].

191. The focus on this population was reflected in the Department's work and my role as CMO in shaping and influencing our response to protect the health of the population and in particular those most at risk. An example of this was the close engagement with the Department of Communities, for example through the work of the Test, Trace, Isolate, Support Oversight Board, regarding supports provided to those who were shielding and at a later stage to those isolating as a case or contact of a case. The focus on the extremely vulnerable was also reflected in a series of steps taken early on to protect residents of care homes.

Care Homes

192. The Covid-19 pandemic had a significant impact on residents, their families and friends, staff and carers in care homes. Residents in care homes were identified early in the pandemic as being at increased risk, given the strong age-related association with poor outcome, compounded by underlying health conditions frequently seen in the older population. This was particularly the case as the virus spread more easily in in-door environments. These particular risk factors had not always been evident in previous pandemics and epidemics and may not be the case in future pandemics. From early spring 2020 if was clear that there was in effect three separate but related epidemics occurring. Firstly, in the community, secondly a week to ten days later in hospitals and then in care homes with increases in care home transmission and outbreaks following approximately 2 weeks after higher levels of community transmission. Outbreaks in care homes throughout the epidemic in Northern Ireland were and have remained closely related to higher levels of community transmission and infection. While the use of the measures introduced to protect vulnerable residents were of benefit albeit resulting in significant isolation and distress for families and staff the most effective way of reducing care home outbreaks was to control wider community and transmission.

193. In the absence of treatments or vaccines it was not straight forward as to how to best protect care home residents while meeting their nursing and medical requirements. The support required with the activities of daily life such as dressing feeding and toileting, by necessity required close physical contact, provided by carers in a closed environment which was as a home to many other residents. At the same time, we were acutely aware of the need to support social interaction with family and friends given the recognised clinical benefits in addition to quality of life for both residents and their families. This was particularly the case when community transmission was high. In addition, with Covid-19, as with many conditions in older people, the signs and symptoms of infection can be different and atypical and can require a high degree of clinical suspicion and awareness. As such, given the nature of the virus in this pandemic and the vulnerability of residents in care homes, tragically there was significant morbidity and mortality, all despite the very considerable efforts of care homes and staff.

194. The primary aim was directed against preventing the introduction of the virus into care homes in the first instance. In this regard I worked with PHA colleagues and in due course the EAG-T to introduce and expand the care testing programme for residents. In early April 2020 I requested that RQIA refocus their resources in providing a liaison role between care homes and HSC Trusts in terms of establishing a support team. I also directed that they should adopt a flexible approach to regulation and inspection and pause routine inspection visits in order to reduce footfall into care homes. These actions are dealt with in more detail above in the section headed CMO role.

195. As identified in the UK CMO Technical report [Chapter 8.2 of Exhibit MM/1 - INQ000217254] the first and second waves of the pandemic tragically had a profound impact on the health of care home residents with high attack rates and large numbers of deaths. It is also recognised that the measures taken to reduce transmission, like visiting restrictions also impacted negatively on residents, in particular, increasing loneliness and isolation with increased stress and distress for residents, families and staff. It is also known that infection rates in care homes are closely related to community prevalence so that we could see regional variation in transmission rates with larger care homes disproportionately affected given the greater number of opportunities for the virus to gain entry.

196. Given the need for specific health protection advice, in May 2020 I established a Care Home Task and Finish group [see Exhibit MM/26 - INQ000137355] chaired by the DCMO. This group provided direction, guidance and support in the development and implementation of the Covid-19 testing arrangements within care homes. It also more generally provided public health advice to the Chief Social Worker and his policy team and to the Chief Nursing Officer and her team who were leading and coordinating extensive work in the provision of: PPE: enhanced Infection Prevention and Control (IPC) training including guidance on visiting and a range of other interventions. This was with support from the PHA, HSC Trusts and the RQIA in its revised support and liaison role. More information on testing in care homes has been provided earlier in my statement, at paragraphs 53 – 58.

Action to address disparities

197. Infectious disease epidemics and pandemics usually expose and exacerbate existing disparities and health inequalities, such as those associated with deprivation, ethnicity, age and sexuality [Chapter 2 of the UK CMO Technical report, Exhibit MM/1 - INQ000217254]. As evidence emerged, some disparities observed in the Covid-19 pandemic arose from the airborne transmission of the pathogen with increased spread in crowded households or for individuals working in poorly ventilated environments, often compounding factors for already vulnerable individuals and populations. As result of the virus reaching increasing numbers early evidence emerged about poorer outcomes for older patients and men. Additional data highlighted the risks for those with certain underlying conditions and immunosuppression.

198. A variety of actions were taken to address the disparities exacerbated by the pandemic. Initially these actions focused on reducing the risk of infection, for example, the Department worked to support the publication of guidance on how to make workplaces more secure for individuals who were unable to work from home including specific guidance for occupations at

higher risk of exposure. The Department and CMO Group worked with other departments the PHA, and the Executive Information Service (EIS) to develop guidance and infographics for the public. This guidance and infographics were translated into several spoken languages within Northern Ireland, and communication campaigns were developed through working closely with community sector representative organisations and communities. Throughout the pandemic, approaches to addressing and minimising these disparities also included, for example, the implementation of large-scale asymptomatic testing programs in care homes and other care settings, the asymptomatic testing of health service staff and other carers, asymptomatic testing in the education sector, as well as targeted testing in areas of higher transmission. Later in the pandemic community testing programmes through the Northern Ireland Smart Program (NISMART) was delivered through local government and the hospitality sector for example to assist widespread community access. Other work in the later stage of the response was under the vaccination program board included the work of the PHA to increase vaccine confidence by promoting vaccine uptake amongst those groups that were more hesitant about vaccination. This included workplace-based vaccination programmes and changes to the contact tracing approach in schools, in order to minimise exclusion when additional evidence suggested it was proportionate to do so.

199. At different stages of the pandemic the steps taken were intended to offer support and protection to other vulnerable groups including the learning disabled, vulnerable children, victims of domestic violence, cancer patients and patients on waiting lists. The focus on this wider range of vulnerable groups reflected the Department's full range of responsibilities.

200. Many people saw a deterioration in their mental health during the pandemic, at times exacerbated by the unavoidable NPI protections. I was aware of these risks early in the pandemic and ensured that a range of initiatives from the mental health cell were put in place to mitigate these effects, including public information campaigns. Inevitability this could only provide mitigation for some and not amelioration for all, and I believe we have not yet seen the full outworking of the mental health impact of the pandemic.

201. The regulations introduced to put NPIs on a statutory footing were subject to regular reviews. Each review considered the public health implications, as is reflected in the relevant review of regulations papers subsequently submitted to the Executive. Any potential emerging equality issues, which required amendments to the regulations would have been reflected in the reviews which I approved. In the circumstances it was, however, not possible to carry out an Equality Impact Assessment on those individuals or groups with protected characteristics. The Health Intelligence Unit in the PHA developed an evidence overview on inequalities at the start of the pandemic. This was shared across the Department and used to inform policy

and as appropriate. The Institute of Public Health Ireland (IPHI) also completed a review of the potential impact of the pandemic on the indicators in the Executive's Public Health Framework, "Making Life Better". In addition, the PHA also undertook work in relation to the impact of face-coverings and the consequences particularly in respect of existing health inequalities. The PHA also carried out some analysis on the detrimental impact of the self-isolation guidance. This demonstrated that children from lower socio-economic groups were disproportionately impacted.

202. During the vaccination programme, extensive work was undertaken by the Department and PHA teams in analysing vaccine uptake at the super-output area for deprivation as well as other risk factors such as age and gender to enable targeting of public information campaigns and mobile vaccination clinics to improve uptake. I chaired the weekly Oversight Board which reviewed such data and agreed the plans for improvement.

203. The Department of Health published Coronavirus Related Health Inequalities Reports [Exhibits MM/43a - INQ000137375, MM/43b - INQ000137376, and MM/43c - INQ000137377] in both June and December 2020.

204. This report presents an analysis of Coronavirus (Covid-19) related health inequalities by assessing differences between the most and least deprived areas of NI (by super output area) and within Local Government District (LGD) areas for Covid-19 infection and admission rates.

UK-WIDE APPROACH

205. There are several areas where the UK Government played a pivotal role in relation to the steps taken in Northern Ireland in response to Covid-19:

a) Guidance introduced by Public Health England (PHE) developed by expert working groups was on several occasions reviewed as to its suitability for Northern Ireland, adapted for Northern Ireland and implemented. An example of this included the four nation Infection Prevention Control guidance, and the recommendation of the national PPE group. NI would have provided input into this work and or had representatives on some the groups however there was neither the need nor indeed capacity for us to replicate the work of the PHE;

b) Restrictions in the first wave of Covid-19 were largely coordinated by the UK Government with close liaison with the leadership and decisions of the Devolved Administrations through COBR meetings;

c) The UK Government established the Furlough scheme and funding to support a range of support schemes which made it possible to put in place restrictions;

d) International travel restrictions were coordinated by UK Government as border policy and operations are reserved matters for the UK government. However, as health is a devolved matter there was consultation with the Devolved Administrations;

e) While the oversight and deployment of the vaccine in NI was led within CMO Group, the UK establishment of the Vaccine Taskforce was vital in the research, development, manufacturing and procurement of a range of different suppliers and National Institute for Health Research/United Kingdom Research and Innovation (UKRI) rapid research call funded the work to develop the Oxford–AstraZeneca Covid-19 vaccine;

f) UK wide research into clinical care and therapeutics;

g) The UK Government placed orders for PPE which then contributed to supply in NI; and

h) The introduction of Local Area Restrictions in Great Britain influenced the decision to follow the same course here. However, the size and geography of Northern Ireland meant that this approach was not successful, and we did not continue to pursue this approach.

206. There was extensive cooperation, sharing of knowledge and intelligence, including emergent evidence and experience, which informed discussions between the 4 UK CMOs and respective teams. On some key issues this culminated in agreed CMO advice to respective Ministers when requested on some key issues and/or agreed joint communication or on other occasions communication to the profession or the public. Examples included sharing of information on areas such as:

- proposed changes to the UK Alert Level [Exhibits MM/44a - INQ000137378 and MM/44b - INQ000137379];
- Covid-19 symptoms [Exhibit MM/45 - INQ000137380];
- therapeutic interventions [Exhibit MM/46 - INQ000137381];
- testing strategy [Exhibit MM/47 - INQ000215532];
- contact tracing [Exhibit MM/48 - INQ000137383];
- advice on risks associated with travel to the UK [Exhibit MM/49 - INQ000137384];
- approach to implementation of JCVI advice on vaccination such as prioritisation of first doses [Exhibit MM/50 - INQ000137385];

- advice to schools and parents on return to school [Exhibit MM/51 - INQ000137386];
- letter to the profession on recruitment to clinical trials [see Exhibit MM/2 - INQ000137309]; and
- communications acknowledging the commitment and sacrifice of HSC staff etc [see Exhibit MM/4 - INQ000137311].

207. These arrangements involved frequent and regular engagement that continues to this day. Structurally these arrangements consisted of formal regular CMO Calls, UK Senior Clinicians Meeting, Joint Biosecurity Centre (JBC) Technical Board, JBC Alert Level calls – JBC subsequently became part of UKHSA and these UK Alert Level meetings are reference at paragraph 98 above - and a range of other meetings. It was agreed by the CMOs that that any one of us could ask for a meeting to be called at any time on any issue. We held a number of such ad hoc calls to consider emergent and urgent issues. These were often late into the evening, early morning or over weekends. One example of these ad hoc calls was the decision to prioritise first doses of vaccine to ensure the protection of a greater number of the population across the UK. This took account of the high levels of community transmission at the time and the current available stock of vaccine. This decision was later reinforced by emerging evidence on improved immune response with a longer dose interval between first and second dose primary vaccination.

208. In my view, these arrangements were highly effective, facilitating professional engagement and discussion in what was a fast-moving highly complex environment. There was a great deal of uncertainty and in this context, professional judgement and advice needed to be considered and carefully constructed. Such arrangements allowed for professional constructive challenge, maximised the sharing of information and intelligence given the enormity of the issues and consequences. While there would have been informal discussions and communications, to the best of my knowledge and recollection, these did not include any significant consideration or formulation of agreed advice to respective Ministers from the CMOs that had not been already discussed and agreed at formal UKCMO meetings or was subsequently agreed at formal meetings and confirmed in written advice. On occasions, such communications would have been used to provide updates on options being considered by respective Ministers, for example on the need for further NPIs or the easing of certain restrictions or other policy considerations. This was in the context of the awareness of the importance of the alignment of public communications between the jurisdictions insofar as this was possible and recognising that policy decisions had not been made and were for Ministers and respective administrations.

209. I did not personally keep a record of these meetings. The meetings were generally chaired by CMO England. Any agreed actions would have been captured in logs prepared by his staff. While some of the matters considered would have reflected a range of views and relevant considerations, I do not recall fundamental dissent or disagreement on significant matters in discussions with CMO colleagues. At various times the infection rate and the impact of the epidemic in each jurisdiction differed. Therefore, it was appropriate that consideration and advice by respective CMO colleagues to Ministers (for example on NPIs) considered local infection rates and health service pressures, so that the advice was appropriately tailored to the local context. The same approach applied to specific public health messaging.

210. The Cabinet Office and the Executive Covid-19 Taskforce (ECT) produced an analysis of the steps taken in other countries and some analysis of their effectiveness. SAGE considered and provided advice on the effectiveness of individual measures and their cumulative impact. SIG also considered a range of papers looking at approaches in other countries.

INTERNATIONAL COOPERATION

211. The advice I provided to the Executive considered and afforded due regard to the experience and intelligence emerging from other jurisdictions. The learning from other jurisdictions was factored into Northern Ireland specific advice. This was relevant as, at various points in time other countries in Europe including the Republic of Ireland, and other jurisdictions in the UK, were either ahead or behind NI in relation to disease trajectory and experience of new variants. The experience of other jurisdictions was, therefore, highly relevant in relation to the potential impact of further waves of infection and the impacts on health services of new variants and was relevant to NI Ministers' considerations and policy decisions.

Republic of Ireland

212. Prior to the pandemic there was close collaboration and cooperation between Public Health in Northern Ireland and the Republic of Ireland operationally and on health issues ranging from public health policy to health service policy. This included arrangements for the sharing of information on infectious diseases. In advance of EU Exit, for example, there were planning events involving the respective jurisdictions to ensure the continued cooperation and information sharing in relation to outbreaks of infectious diseases and wider health protection issues. In addition, there has been longstanding and established professional and policy cooperation on wider aspect of public health policy and implementation including for example drugs and alcohol and suicide prevention.

213. A structural example of this was the establishment in 1998 of the Institute of Public Health in Ireland and Northern Ireland which remains jointly funded by the Departments of Health in both Ireland and Northern Ireland and is directly accountable to both Chief Medical Officers. The Institute is governed by a Board of Directors, appointed by the Chief Medical Officers, who provide strategic advice to the Executive Team.

214. The Institute is focused on promoting health and wellbeing, improving health equity and reducing health inequalities throughout the life course. It has researchers and policy specialists from a range of disciplines based in offices in Dublin and Belfast. The Institute works with national and local government departments and has established partnerships with university based academic schools of public health, clinical and academic institutions, and community organisations on the island of Ireland, in the UK, EU and globally.

215. The Institute's role was not pivotal to the pandemic response, rather it is an example of the close working relationship between both jurisdictions from a public health perspective. However, the Department commissioned the Institute to provide regular updates on the potential impact of the pandemic and restrictions on Making Life Better indicators (the Northern Ireland Executive's Public Health policy) and these were used to inform Executive papers on the impact of the pandemic and related restrictions.

216. As such, a high level of public health cooperation was to be expected in response to the pandemic. I contacted the CMO in the Republic of Ireland (RoI) in early January by phone to discuss the developing situation in China, to update him on preparation underway in NI and to seek an update on actions in RoI. Collaboration with RoI was not only on a North/South basis. The RoI CMO did join UKCMO meetings at my request and with the agreement of CMO colleagues twice in March 2020 and in addition there was at least one trilateral meeting involving the CMO of the RoI, England and myself. There were regular Ministerial meetings on a North/South basis frequently involving the FM and the dFM. These meetings were in addition to the North South Ministerial Council meetings. There were also detailed engagements around travel within the Common Travel Area (CTA) and international travel given the challenges arising around data sharing in respect of international travel and at times the differences in risk assessment at an individual country level.

217. As CMO for Northern Ireland, I met regularly with the CMO for the Republic of Ireland to share information on, for example, clusters in border areas and to support joint work between the Irish Health Services Executive (HSE), the PHA and both Departments. We kept each other informed of developments and discussed the respective approaches which might possibly be taken in each jurisdiction. We did this as we were very mindful of the importance

of the general alignment and communication of public messaging notwithstanding the fact that ultimately these were matters for Ministers. We shared modelling data from respective jurisdictions, and data on the emergence of new variants of the virus. Subject to the consideration and agreement of Ministers we also explored options for coordinating respective responses which most visibly took the form of joint statements urging the population on both sides of the Irish border to exercise restraint in their social contacts to prevent or reduce transmission of the virus. An example of this relates to our response to the integrated approach to addressing higher levels of transmission that we experienced in some border counties. In response to this we agreed that both the PHA and the Health Services Executive would formally meet regularly and share data and intelligence. The joint RoI and NI collaboration in relation to border issues was exemplified by the actions taken in response to a high level of infection in the border area of Donegal and Strabane and Derry City Council area in effect treating taking a common epidemiological approach. At the request of both CMOs, respective public health agencies worked with local councils, the business community and wider civic society to ensure coordinated action to reduce community transmission; this included joint public messaging on media outlets.

218. As two jurisdictions with respective governments my counterpart and I provided advice separately to our respective Ministers. We jointly supported respective Ministers at relevant meetings and attended and provided updates to North South Ministerial meetings. We jointly contributed to the development of and recommended to our respective departments and Ministers a Memorandum of Understanding ("MOU") on areas of collaboration which are outlined below, and these areas were discussed, and relevant information was shared at our regular CMO meetings. While Ministers made the final policy decisions on a number of areas of cooperation and information sharing all relevant areas would also have been routinely discussed at bilateral Ministerial meetings between the Health Minister in NI and his counterpart in the RoI. There was routine sharing of information between NI and RoI, including:

a) work on the border areas;
b) sharing data and research;
c) sharing of learning of vaccine deployment in NI;
d) sharing of information on the approach to care homes;
e) regular sharing of respective epidemiology situation; and
f) agreement regarding mutual aid in respect of Intensive Care, and health service capacity.

219. Following a request by the Health Minister and discussions between both CMOs, the IPHI were asked to prepare and coordinate a Rapid Review assessment of the effectiveness and

contribution of the NI/RoI MOU to the strategic and operational response to the Covid-19 pandemic. This did not progress and was overtaken by other events and to my knowledge the draft terms of reference were not finalised.

220. The RoI and NI are separate jurisdictions, each with an elected Government and respective Ministers accountable for policy decisions in their own jurisdiction. The Government in the RoI had its own separate advisory structures and committees in addition to European expert advisory structures such as the European Centre for Disease Control. While there were some differences in interpretation of emergent science, data and emphasis, the advice was generally broadly consistent. At official level, historically and during the pandemic, there was very close cooperation and regular engagement and cooperation. In my experience the professional collaboration between my counterpart, myself, respective teams and public agencies was effective and of significant benefit during the pandemic.

A single epidemiological unit

221. At various times the epidemiology differed between NI and the RoI as it did between the various parts of the United Kingdom, and indeed within regions at the individual county level. At other times the epidemiology in NI was much closer to that of the RoI than the rest of the UK. Advice to respective Ministers to inform policy decisions in each jurisdiction was based on the trajectory of the pandemic, relevant modelling and health service pressures in each jurisdiction at points in time. Consequently, advice and subsequent policy decisions by Ministers, for example on the use of NPIs, will have necessarily differed at various points. In addition, Ministers were considering not only the health consequences but also the wider societal and economic factors within their respective pandemic responses. These policy differences were understandably the subject of media coverage and commentary by independent and academic colleagues and wider political commentary. At various times there was at least the potential to dilute important public health key messages and much effort was required to ensure there was public understanding of the rationale for public health advice and policy decisions in respective jurisdictions and where these differed and why. Informal discussions were held between my counterpart in the RoI and myself, and with our respective teams, on the issue of treating the island of Ireland geographically as a common epidemiological unit, for example in respect of all island modelling. This was explored, however we acknowledged that there were real practical difficulties in terms of the comparability of data, given differences in how this data was captured and recorded. We concluded that the close sharing of relevant data and respective approaches on key policy areas such as testing, contact tracing, and vaccine deployment was a more pragmatic approach. This close professional cooperation continued through the pandemic response and

in my view was very effective. Interjurisdictional commitments for health as contained in the Good Friday Agreement (The Belfast Agreement 1998), provide a framework for cooperation and coordination of population health on the island of Ireland, and intergovernmental meetings occurred within these arrangements. This commitment to joint working was also reflected in the commitment of respective Ministers, for example on the approach to international travel. There were discussions at the Executive in early January 2021 about the need for a two-island approach to travel arrangements. I believe that there were discussions involving the dFM, the FM, the Chancellor of the Duchy of Lancaster, and the Scottish and Welsh governments in relation to international travel including a five nations/two island approach. As indicated above there was very close and effective cross border cooperation by public health organisations and Departments to address high transmission rates in certain border counties. An academic qualitative review of public health policies for Covid-19 in Northern Ireland and the RoI was undertaken during the first wave of the pandemic [Exhibit MM/52 - INQ000137387]. This study concluded: "*that notwithstanding the historical and constitutional obstacles to an all-island response to Covid-19, there is evidence of significant public health policy alignment brought about through ongoing dialogue and cooperation between the health administrations in each jurisdiction over the course of the first of the first wave of the pandemic.*"

222. There were some difficulties in a few areas of the pandemic response between the two jurisdictions, for example data sharing in respect of international travel. It took some time to progress the technical solution and the legal framework for the sharing of passenger details of those returning on international flights into RoI and then travelling on to NI. This was the subject of correspondence between respective UK Ministers, the Health Ministers in Northern Ireland and the Republic of Ireland, the FM, the dFM and the Taoiseach and the Tánaiste. There were also some differences in relation to the respective jurisdiction's assessment of the risk associated with overseas travel from certain countries. While these issues were not straightforward to address, CMO Group on behalf of the Department and the Executive did agree formal information on sharing arrangements. In the interim joint approaches were established to address the issue of NI residents arriving in to the RoI before travelling on into NI. This included for example the development by officials in Northern Ireland and the Republic of Ireland of a SMS system that notified those travelling across the border of the requirement to complete both passenger locator forms (PLFs). The position in relation to international travel and the assessment of relative risk was already a complicated issue to explain to the public and one that rapidly changed with each review and risk assessment at an individual country level. As such, differences in approaches in both jurisdictions added to the communication challenges and agreeing the final arrangements on data sharing took longer than was expected although through joint working was addressed.

IMMEDIATE APPROACH TO LEARNING IN THE PANDEMIC RESPONSE

223. Throughout the pandemic response we adopted a continuous approach to identifying and implementing learning as the evidence and our knowledge evolved and our experience developed, and that process continues. This is reflected more fully as referenced above in the UK CMO Technical report, published on 1st December 2022. As we have described this is a technical report written to share information and our reflections with our CMO successors who may be faced with the challenge of responding to a future pandemic. To ensure immediate lessons were learned and implemented during the pandemic, and especially following the first wave, I commissioned several reviews to seek to enhance the response to further waves of the epidemic in Northern Ireland. I have highlighted some examples of this early work in paragraphs 224 to 229 below. I offer some wider reflections in paragraphs 230 to 251.

224. As described earlier the structures in place to oversee the Department's initial response were those described in the ERP. In preparation for anticipated subsequent "waves" of infection, I commissioned an 'in flight review" of the structures which reported on 23rd April 2020 [see Exhibits MM/23a - INQ000137348, MM/23b - INQ000137349, and MM/23c - INQ000137350]. Following internal discussions this ultimately prompted the recommendation to stand down first the strategic cell in June 2020 and then the EOC in August 2020 moving to more sustainable medium-term arrangements as described at paragraphs 117 and 118. Given the supply and logistical challenges with PPE with the agreement of the Minister, I commissioned the Department's Internal Audit team to carry out a Rapid Review of PPE with input from across the HSC system with the final report being submitted to the Minister on 14th May 2020. (see Exhibits MM/24a - INQ000137351 and MM/24b - INQ000137353). The Review made 19 recommendations for the short-term improvement of the PPE position, which was used in preparation for a second wave of Covid-19.

225. In the context of a continued increase in new cases and in order to identify and articulate the key issues impacting on the current level of service and to provide assurances on the capacity of the existing contact tracing system, I commissioned a Rapid Review of the contact tracing service (CTS) and its delivery model which reported on 12th October 2020. The rapid review was underpinned by a key assumption that there would be a significant escalation in Covid-19 infection rates and in individuals testing positive over the weeks and months ahead and that, in order for the service to be effective, positive cases need to be contacted within 24 hours and their close contacts within 48 hours of notification to the contact tracing system. The main purpose of the Rapid Review was to support the ongoing and future delivery of the

contact tracing function by looking at the elements of the CTS that had worked well to date, and to consider what measures were required to effect improvements in the service with a focus on more efficient and effective contact tracing processes, supported by appropriate technology and providing high quality management information.

226. The Rapid Review [Exhibit MM/53 - INQ000137388] established a number of key findings which were subsequently taken forward by the PHA and the Department. Delivery of this work was supported through the appointment to PHA of a Director with responsibility for the Covid-19 Contact Tracing Service in NI.

227. Recognising the very significant demands on the PHA and the likely longer term nature of these, I proposed and agreed with the senior leadership team of the PHA an external review of capacity and capability. This was jointly commissioned by the Department and the Public Health Agency (PHA) to carry out a rapid, focused external review of the PHA's resource requirements to respond to the Covid-19 pandemic over the subsequent 18-24 months. The final report [Exhibit MM/54 - INQ000137389] was delivered to the PHA Chief Executive, PHA Chair and myself as CMO in December 2020. The Review contained four high level recommendations which, through their implementation, will constitute a major change programme leading to a new model for operational delivery for the PHA. The recommendations are to:

- Strengthen the public health system in Northern Ireland;
- Strengthen health protection capability within the PHA;
- Develop science and intelligence capability; and
- Build a modern, effective and accountable organisation.

228. The implementation of these recommendations is being taken forward as an integral part of a wider exercise to review and reshape the PHA, which also encompasses its vital health improvement and service development functions. It is expected to be completed in early 2024.

229. Importantly, as indicated at paragraph 189, given the adverse impact of "shielding" I commissioned the Patient and Client Council (PCC) to undertake research into the views and needs of the CEV population. This survey highlighted that fear of Covid-19, and the associated risks were the main concern among those who responded. We sought to incorporate these findings into further advice and guidance.

REFLECTIONS

230. Unarguably, over the last three years, the world has experienced extensive and tragic loss of life, and many have experienced profound impacts on health and well-being. There have also been substantial societal and economic consequences globally, so the effects felt in Northern Ireland are far from unique. It is important that we seek to mitigate and recover from those consequences as effectively as is possible.

231. While the pandemic is not yet over, we are now in a much better place as we start to learn to live alongside Covid-19, thanks to the collective efforts of society, medicine and science. The threat of another variant-induced wave of disease remains a real one and none of us should be in any doubt as to the challenges we face this winter nor the health, social and economic consequences of this pandemic which we will be facing for some considerable time.

232. While it is a matter for the Public Inquiry to ultimately establish the lessons learned, I have worked closely with Chief Medical Officers and Deputy Chief Medical Officers across the United Kingdom to co-author a "Technical report on the Covid-19 Pandemic in the UK" published on 1st December 2022 [see Exhibit MM/1 - INQ000217254]. This report has been written to share information and learning with our successors who may face responding to a future pandemic. I offer here some of my observations and reflections during this period which I have already expressed in this report.

233. For the UK, there can be no doubt that Covid-19 has been the most challenging pandemic since the influenza pandemic of 1918-19. This has certainly been the most challenging and intense period of my professional career. Since 2000, we have experienced significant epidemics and pandemics including the emergence of SARS (Severe Acute Respiratory Syndrome) in 2003, the H1N1 or "Swine Flu" influenza pandemic in 2009, MERS (Middle Eastern Respiratory Syndrome) in 2012, along with major epidemics of Ebola in West Africa in 2014-16 and more recently Zika virus in Brazil, 2016. While the impact of these on the UK was less severe, the preparation required for what might have happened was significant. This helped maintain a significant degree of pre-pandemic preparedness and experience in the Department of Health in Northern Ireland and in the PHA and the HSCB (now SPPG) and related bodies across the UK. Without this level of preparedness and experience, coupled with the public health and scientific expertise accumulated over many years, the outcome of this pandemic could in my view have been very different. In addition, while the EU Exit did

divert some of our focus away from pre-pandemic planning during this period, undoubtedly the many aspects of additional training, improvements in the resilience of supply chains and the preparedness to manage the potential consequences of Brexit were nevertheless advantageous.

234. While we know that no two pandemics will be the same and simply looking to this pandemic will not necessarily allow us to adequately prepare for the next, there are key strategic elements of an effective response. We will again have to work rapidly to gain that knowledge and flex and adapt our response accordingly. At the same time, in the likely absence of vaccines or drug treatments, deploying basic public health measures and our knowledge and understanding of this and previous pandemics will help us to act while we accumulate knowledge specific to any new pandemic.

Agility, maximum flexibility, and innovation

235. While planning and preparation are important, it is debatable whether any amount of planning or preparation could have fully anticipated the scale and impact of the Covid-19 pandemic. Nor could we have anticipated the scale of the measures that we had to take to protect those most at risk and prevent our health and social care system being overwhelmed. That said, it is imperative that we ensure across the whole of government, that there is longer term horizon scanning to identify future risks. It is also critical that we actively build future capability and capacity across government to identify and respond to future risks and that we test the resilience of that capability and capacity on an ongoing basis.

236. When working with huge uncertainty and all the limitations such uncertainty brings, providing the best possible advice to Ministers can be uncomfortable, particularly when the consequences of decisions by Ministers are so difficult. Conducting research at pace to answer key questions and address gaps in the evidence was essential. Once generated, agility and flexibility are necessary to ensure the rapid dissemination of the emerging evidence and knowledge, reflecting that into dynamic policy approaches and implementation. Given the rapidly evolving situation a dynamic and responsive approach was a matter of necessity. For example, within a few weeks of the virus being identified, because of the sharing of the genotype by scientists in China with other scientists, the Regional Virus Laboratory in Northern Ireland along with only a handful of centres across the UK with the ability to test for the virus, and innovative partnerships were established with both Northern Ireland Universities, the Agri-Food Biosciences Institute and the ALMAC Group (through the NI Covid-19 Testing Scientific Advisory Consortium) to increase Pillar 1 testing capacity. The research capability in the UK was a strength in provide the answers to important questions

and undoubtedly had a major role in turning the response to the pandemic for a broader based societal approach with very significant implications for the public to a more focused one with medical countermeasures such as vaccines, drug treatment and other improvement in clinical management. This important role of research in the pandemic is covered more fully in the UK CMO Technical report, Chapter 3, pages 107 to 119.

237. Within days, in primary care we had established Covid-19 assessment centres to ensure those with symptoms could be examined in the community by practice teams with appropriate protective equipment. This had the effect of easing pressures on our Emergency Departments. We directed the Health Service Trusts and RQIA to provide support into our care homes. Significant additional support was provided to support care homes and staff through providing enhanced training in infection prevention and control, expert advice, and the supply of PPE. As we moved from containment phase to delay phase, towards the end of the first wave, we got contact tracing service back in operation at an early stage after contact tracing in Northern Ireland (and across the UK) had been paused in March 2020. Contact tracing was re-introduced in NI on 27th April 2020 through a pilot phase with the full launch on 18th May 2020. To facilitate this, we worked with colleagues to increase capacity and to increase further digital self-trace and increased automation.

238. We worked with other Departments in particular Department for Communities under the auspices of the Test, Trace, Protect (TTP) Oversight Board to provide the support that was needed for those that were self-isolating, tracing some 600,000 cases and 950,000 contacts before pausing this in early 2022. There were many examples of significant enabling digital innovation. We developed the "Stop Covid-19 NI" proximity app, the first to be interoperable with the UK and Ireland with some 685k downloads at its peak (this comprised of digital self-trace applications to enable contact tracing adding valuable additional capacity to support contact tracing). We developed public facing dashboards to provide the public with access to the latest real time information on disease activity, response and impact including the uptake of vaccines. These "single versions of the truth" resources were vital in maintaining public confidence which I will return to.

239. Teams did all of this at scale and pace delivering what at times was the seemingly impossible. Every time a new problem presented itself, we assessed, we innovated, we flexed and adapted because we had a common purpose and a singular focus on saving lives, minimising harm and protecting our health service and the most vulnerable in society as best we could. The core competences of working in such a manner and the resilience required to maintain are material considerations.

Government policy matters, and public trust

240. Public trust was essential in the response. During the pandemic policy decisions, legislation and guidance impacted on virtually every aspect of people's lives. It was therefore important that people understood what was being asked and why particularly as the action requested of most people were required to protect others more at risk. There was significant effort during the pandemic made to explain the rationale for the policy decisions. This understanding was essential in assisting people in following the advice and rules but also in gaining their trust. Trust is hard earned, judged in not just what we say, but in how we behave and in what we do. Securing and maintaining the trust of the people of NI and across the UK was central in the effective pandemic response. Public trust matters because it informs individual behaviours and response. This played out in number of ways during the pandemic. Firstly, this was the first global pandemic we faced in the era of 24-hour media coverage and social media commentary. Debate is healthy and to be encouraged particularly with so much uncertainty. Everyone is entitled to their opinion, but they are not entitled to their own facts. It was a major challenge to address some of the commentary particularly contradictory messaging. At times this contributed to public misunderstanding and at other times unfortunately the dissemination of disinformation which may have influenced individual decisions, for instance in decisions made not to avail of the vaccine. At other times, while accepting this was a very pressurised and fast-moving situation with many difficult decisions communication and messaging with the public could have been more coherent. This was acknowledged by Ministers at times during the pandemic.

241. Prior to effective medical interventions, the effectiveness of lockdowns, the wearing of face coverings and effectiveness of other NPIs and public health interventions even when mandated, was largely down to how seriously people took the rules. It is to the credit of the people of NI that most people followed the advice and kept to the rules, thereby, protecting themselves, their families and those at greater risk. Later in 2020, the arrival of vaccines as I stated publicly at the time heralded the arrival of something fortunately even more infectious than the virus – hope. It was important for the public to see that the beginning of end was in sight as vaccines and medical treatments began to replace the need for NPIs. It was also important that as the impact of the measures introduced, and fatigue increased that the public could see the benefits of their continued efforts while the vaccination programme was rolled out. Again, the public in NI and the UK had significant trust in the Medicines Healthcare Regulatory Agency (MHRA) and JCVI advice to Ministers because of the openness and

transparency of the information and how it was shared. Partly for these reasons, we did not experience the same vaccine hesitancy as occurred in other countries.

242. In this pandemic, like so much else, success in the health response has depended on both the public's trust in government and that shared social contract among citizens. Trust is hard to maintain during a crisis and easy to lose particular with no end in sight prior to the development of vaccines. We spent time interacting with civic society, with businesses, with the Churches and Faith Leaders, with Communities and wider society, building an understanding and confidence in specific areas, the science – a new language for some, the modelling – the meaning of R, and an understanding of the necessity for NPIs which while undoubtedly saved many lives, also had such a negative impact on people's lives and livelihoods. Establishing and maintaining public trust will be essential in maintaining public trust in any future pandemic.

Research and rapid translation to clinical care

243. During the early period of any pandemic there is very little information particularly in respect of treatments and even less of vaccines. It was enormously challenging to plan and conduct clinical trials during a disease crisis, particularly trials large enough to come to a solid conclusion about whether the drug or vaccine being tested works. The understandably ethical and clinical imperative "to do something" time and time again has seen trials conducted during previous epidemics that were either too small, conducted without a comparison arm or were still struggling to reach an answer when the outbreak ended. This was not the case during this pandemic.

244. Due to our strong public health, clinical and biomedical research base, the UK contributed significantly to the development of vaccines and drugs that transformed our approach to the pandemic, while also benefiting from the rapid dissemination of research in other countries. This along with the establishment of UK-wide Taskforces to consider novel candidate vaccines and treatments along with the flexibility and rolling program of review of that evidence by the MHRA as the UK regulatory and JCVI, ensured that we could all benefit from research as it emerged. For example, the Recovery trial harnessed the power of the health service across the UK to enrol enough patients to come up with much needed answers. It brought to the world the evidence that a widely available steroid, Dexamethasone improved survival in people seriously ill with Covid-19. As a result, we now have several antivirals and monoclonal antibodies which have transformed the outcome for those at risk of more severe disease. The most important development was of course the development of highly effective and safe vaccines. It took just 326 days from the genomic sequence of Covid-19 being

identified to the authorisation of a Covid-19 vaccine. While there can be no guarantee that vaccines are developed in future pandemics as rapidly, it is important that this was only possible by the research and investment into candidate vaccines against SARS and MERS some years previously.

245. The research capability in the UK was a strength in providing answers to important questions and undoubtedly had a major role in turning the response to the pandemic for a broader based societal approach with very significant implications for the public to a more focused one with the development of medical countermeasures such as vaccines, drug treatment and other improvements in clinical management. This important role of research in the pandemic is covered more fully in the UK CMO Technical report, Chapter 3, pages 107 to 119. Science will invariably be our path out of any future pandemic, and it is essential that we continue to nurture and invest in research and science so that we are better equipped the next time. The early stages of a pandemic are the most challenging when little is known, and the development of treatment and vaccines is in its early stages. It is then, when the only measures available to us are NPIs with all their health, societal and economic consequences that is most challenging. It is then that the need to maintain the trust and hope of the public is greatest as the medical countermeasures the drugs and vaccines will come, but inevitably will take time.

Working across government and governments

246. The challenges for the Executive facing a series of difficult choices, balancing the health, societal and economic consequences cannot be underestimated. Many of the important initial decisions by Ministers had to be taken when many key facts were unknown, or at least uncertain and we were unable to provide definitive evidence. Understandably there was not always agreement between Ministers. There was debate and challenge, which is understandable given that there were no easy decisions and every decision had consequences. However, from my vantage point as the CMO, it appeared to me that the Executive sought to steer a path through the pandemic, giving due regard to the evidence and advice while weighing up all the implications. There were occasions when, having considered all the advice provided, that as was their prerogative, the Executive took decisions based on considerations other than the health advice. There were no easy decisions.

247. Joint working with Ministers across the UK and the Republic of Ireland to provide a coordinated approach to the response to Covid-19 and in making progress on shared challenges and approaches such as international travel was important. This was not always straightforward, as there were at times differences in how the virus was spreading and

differing weight was given to the many considerations by Ministers, as is their prerogative. At times, differences in approaches to NPIs or specific guidance presented challenges in public messaging. My understanding of the situation was that, in arriving at these policy decisions, the respective Ministers considered and weighed up the health, societal and economic factors.

248. At a UK level joint working included collaboration on the Covid-19 Vaccination Programme, the National Testing Programme, the many groups on supporting policy decisions on international travel and work on the International Travel Regulations. This included Covid-O (operational) Committee meetings, with Ministers from all UK administrations participating, the other Devolved Administrations, the work of the Joint Biosecurity Centre (now part of UKHSA) which worked closely with the Department and the PHA.

Resilience in government and public health bodies

249. The pandemic required a sustained intense effort to address matters of significant complexity over a prolonged period. The policy dimensions and approaches were both complicated and given the evolving evidence and the changing course of the pandemic these required to be continually reviewed and updated. The impact on the Department as a relatively small department was significant, the challenges in securing additional staff compounded this and the inability to rotate individuals in key posts presented risks during the peak of the response. The same was undoubtedly the case in other departments and ALBs. Similarly, the PHA faced capacity and capability challenges, like most other public health bodies, however the scale of the response required, and its duration again posed significant risks in terms of organisational resilience. As described at paragraph 227 and 228 above, the external review agreed with the leadership of the PHA, which had identified several recommendations to address this. Future planning and preparedness will need to fundamentally consider the human resourcing aspects, if we are to maintain such as sustained response, and if this is not to become a critical failure point. Where it not for the leadership and commitment of a significant number of individuals, over and above what could be reasonably be expected, the consequences could have been significant. It is essential that consideration is given as to how to enhance and maintain a wider cohort of individuals, who have the necessary skills and experience, as this will be essential in any further epidemic or pandemic response.

250. In closing I want to pay tribute to the public of Northern Ireland and across these islands for their action and response to protect their fellow citizens. Their response and sacrifice, young and old over a considerable period saved many lives in the greatest major public health challenge in a generation. Had they not done so, the challenges for our health service and

our public health teams would have been significantly worse. To all of those on the frontline as they responded to wave after wave, we owe you a debt of gratitude which we can never repay.

251. It was both an extremely difficult and remarkable journey to have experienced at first hand. The sacrifice, altruism and collective endeavour was impressive. The burden on many has been significant, the impact profound with the full consequences still being experienced and realised. We are all of us transformed and nothing will ever be quite the same again. And to those we lost and to those who lost so much – our legacy must be to ensure that we are as prepared as we can be for the next pandemic and that we learn from all the lessons.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

Signed: Personal Data

Dated: 24 July 2023

Abbreviations/Acronyms Used in this Statement

ALB	Arms-Length Body
BAME	Black and Minority Ethnic
BAO	Bachelor of the Art of Obstetrics
BCh	Bachelor of Surgery
BSO	Business Services Organisation
CAHPO	Chief Allied Health Professions Officer
CDIO	Chief Digital Information Officer
CDO	Chief Dental Officer
CEHO	Chief Environmental Health Officer
CEV	Clinically Extremely Vulnerable
CGCG	Covid-19 Gold Command Group
CMO	Chief Medical Officer
CNO	Chief Nursing Officer
COBR	Cabinet Office Briefing Rooms - used for meetings of The Civil Contingencies Committee
COBR(M)	COBR Ministers' Group
CPO	Chief Pharmaceutical Officer
CSA	Chief Scientific Advisor
CTS	Contact Tracing Service
DCMO	Deputy Chief Medical Officer
DCSA	Deputy Chief Scientific Advisor
DE	Department of Education
dFM	deputy First Minister
DHCNI	Digital Health and Care, Northern Ireland
DHSC	Department of Health and Social Care
DoH	Department of Health
EA	Education Authority
EAGT	Expert Advisory Group on Testing
EIS	Executive Information Service
EOC	Emergency Operations Centre
ERP	Emergency Response Plan

FF100	First Few Hundred
FM	First Minister
FMLM	Faculty of Medical Leadership and Management
GAA	Gaelic Athletic Association
H1N1	H1N1 Flu - Commonly known as Swine Flu
HAI	Hospital (or HealthCare) Associated Infection
HIV	Human Immunodeficiency Virus
HPG	Health Care Policy Group
HSC	Health and Social Care
HSCB	Health and Social Care Board
HSE NW	Health Services Executive
ICU	Intensive Care Unit
IPC	Infection Prevention and Control
IPHI	Institute of Public Health Ireland
JBC	Joint Biosecurity Centre
JCVI	Joint Committee on Vaccination and Immunisation
LAMP	Loop-medicated isothermal Amplification
LFD	Lateral Flow Device
LGD	Local Government District
MB	Bachelor of Medicine
MCCD	Medical Certificate on Cause of Death
MERS	Middle Eastern Respiratory Syndrome
MHRA	Medicines Healthcare Regulatory Agency
MoU	Memorandum of Understanding
NERVTAG	New and Emerging Respiratory Virus Threats Advisory Group
NHS	National Health Service
NI	Northern Ireland
NICE	National Institute for Health and Care Excellence
NISMART	Northern Ireland Smart Programme
NISRA	Northern Ireland Statistics and Research Agency

NPI	Non-Pharmaceutical Interventions
NSC	Nosocomial Support Cell
ONS	Office of National Statistics
PCC	Patient and Client Council
PCR	Polymerase Chain Reaction
PHA	Public Health Agency
PHE	Public Health England
PLF	Passenger Locator Form
PPE	Personal Protective Equipment
QUB	Queen's University Belfast
RMB	Rebuilding Management Board
RoI	Republic of Ireland
RQIA	Regulation and Quality Improvement Authority
SAGE	Scientific Advisory Group for Emergencies
SAI	Serious Adverse Incident
SARS	Severe Acute Respiratory Syndrome
SIG	Strategic Intelligence Group
SitReps	Situation Reports
SMART	Systematic, Meaningful, Asymptomatic, Repeated Testing
SpAd	Special Advisor
SPI-M-O	Scientific Pandemic Influenza Group on Modelling Operations
SPPG	Strategic Planning and Performance Group
SRO	Senior Responsible Officer
TEO	The Executive Office
TMG	Top Management Group
TTP	Test Trace Protect
UKCMOs	United Kingdom Chief Medical Officers
UKHSA	United Kingdom Health Security Agency
UKRI	United Kingdom Research and Innovation
WHO	World Health Organization

WW	Waste Water