Reform of communicable disease control systems:

Detecting, preventing and responding to infectious diseases (from Public Health Laboratory Service to Public Health England)

Transcript of witness seminar held 18th May 2023

Edited by Helen Piotrowski, Paul Atkinson, and Sally Sheard

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Notes on Editing process

The initial transcript was produced by Ubiqus UK. This was thoroughly checked and edited by Helen Piotrowski, Paul Atkinson and Sally Sheard. A verbatim transcript was shared confidentially with all participants, who were given the opportunity to clarify words attributed to them. Additional comments have been added as footnotes, and changes to readability have been included within the transcript. This was a collaborative process to ensure that all participants are satisfied with their contributions, whilst retaining the original meaning and content of the witness seminar.

Contents

Introduction

The national systems in place for the detection, prevention and control of communicable diseases have undergone repeated reform and organisation change. This witness seminar explored the role organisations have played in the development and implementation of strategies and systems to control communicable diseases. At this witness seminar, we invited expert witnesses who have been involved in the Public Health Laboratory Service (PHLS) – including the Communicable Disease Surveillance Centre (CDSC), Health Protection Agency (HPA), and Public Health England (PHE) to discuss their role in this. Topics included: the role of organisations within the wider public health network; motivations for reform and impacts on disease control; and the development and use of surveillance systems.

Public Health Laboratory Service 1946-2003

Immediately prior to the Second World War, the Emergency Public Health Laboratory Service (EPHLS) was developed as part of the Emergency Medical Service. It was created in anticipation of outbreaks of diseases, and fear of biological attacks. The EPHLS was an integrated network of 19 laboratories across England and Wales, with a central reference laboratory based in Colindale, north London. [1] Following legislation in 1946 to establish the National Health Service (NHS), the EPHLS became the PHLS. The PHLS was initially run by the Medical Research Council, but further legalisation in 1960, saw a governance shift, with the PHLS becoming accountable to the Ministry of Health. From 1946 to 1969, PHLS expanded their network of peripheral labs across England and Wales; which were based in hospitals and fed data into the Central Public Health Laboratory. However, by the 1970s, the peripheral laboratory network had reduced from 69 to 52. These were mostly jointly funded by the PHLS and Health Authorities . In addition to these laboratories there were over 300 hospital laboratories which focused on clinical investigations and were managed by the NHS. During the 1970s and 1980s, PHLS was under continual pressure with financial insecurity, as well as the potential threat of transferring PHLS laboratories to NHS management. However, this change were held off during this time period due to a number of influential individuals, who advocated against this reform of laboratory services through highlighting the potential impact this would have on surveillance. The introduction of the internal market in 1990s lead to significant changes in the way health services were funded. In 1993, PHLS took control of the peripheral laboratories, contracting them out to Health Authorities. However, Lancaster and Pollock reported that complexity in commissioning led to PHLS incurring a financial deficit. Furthermore, during the 1990s, their network of peripheral laboratories had reduced down to 46.[2] The historian, Claas Kirchhelle, reports that the network was streamlined as health priorities shifted towards non-communicable diseases, and away from infectious diseases. He reports that this was because there was increased competition for resources in a time of fiscal crisis. Additionally, improved

[1] Kirchhelle C. Giants on Clay Feet—COVID-19, infection control and public health laboratory networks in England, the USA and (West-) Germany (1945–2020). Social History of Medicine. 2022;35(3):703-48.
[2] James Lancaster, Allyson Pollock. A supplementary report for the Infected Blood Inquiry into structures and funding of the communicable disease control system in England to supplement the response to Q17 in the report of its Public Health and Administration Expert Group (pp.8-13), which was submitted to the Inquiry in August 2022. 2022 15 November 2022.

technologies were perceived as a justification and enabler for moving towards a more centralised model of epidemic intelligence.

Communicable Disease Surveillance Centre 1977-2003

Following an outbreak of smallpox in a research facility in 1973, the Secretary of State requested a Committee to investigate the outbreak. The Committee was led by Mr P. J. Cox. The Cox Committee recommended a national disease control centre, and the CDSC was established in 1977 as part of the PHLS, and under the leadership of N.S Galbraith . Subsequently, the CDSC took over responsibility for surveillance and disease control, which had previously been the responsibility of the Department of Health and Social Security.[3] The CDSC began publishing weekly reports on the prevalence of infectious diseases across England, which also fed into the Chief Medical Officer's annual reports. In 1986, the CDSC incorporated the PHLS Epidemiological Research Laboratory service, and took on further roles of training.[4] The role of CDSC was tested during outbreaks in the 1970s, including an accidental release of smallpox, and larger outbreaks of Salmonella and Legionnaires. These challenges led to an inquiry into the future of public health, which was led by UK government Chief Medical Officer Donald Acheson. The Acheson Report was published in 1988, and was described by O'Brien et al., as the 'most comprehensive review of public health systems in England since 1871'.[5] The Acheson Report acknowledged that the CDSC had an essential role in public health.[6]

Health Protection Agency 2003-2013

During the 1990s, concerns of anti-microbial resistant pathogens, the HIV/AIDS pandemic, and a rise in hospital-acquired and food-borne infections, led to framing infectious diseases as national biosecurity threats, in an attempt to mobilise resources . The election of New Labour in 1997, ushered in another period of significant change across the health system. Following their White Paper (*Saving Lives: Our Healthier Nation)* in 1999, the Chief Medical Officer (CMO) Liam Donaldson was tasked with developing a strategy for tackling communicable disease.[7] Based on this request, Liam Donaldson and his Deputy CMO, Pat Troop, developed a strategy called '*Getting Ahead of the Curve: A strategy for combating infectious diseases'*, which was published in 2002. The strategy outlined the need for a broad approach to infectious disease control and health protection more widely; recognising that infectious diseases presented a major global threat . One of the biggest actions recommended in the strategy was the development of a new Agency, which would integrate environmental, chemical, microbiology and epidemiology services.[8] The Health Protection Agency (HPA) was initially established in 2003 as an NHS Special Health Authority, and became a Non-Departmental Body in 2005. It merged the roles of the PHLS (including CDSC); the Centre for Applied Microbiology and Research (CAMR); the National Radiological Protection Board (NRPB); and the National Focus for Chemical Incidents. Initially, three centres were developed which

[3] Galbraith N. CDSC: from Cox to Acheson. Community Medicine. 1989;11(3):187-99.
[4] Kirchhelle C. Giants on Clay Feet—COVID-19, infection control and public health laboratory networks in England, the USA and (West-) Germany (1945–2020). Social History of Medicine. 2022;35(3):703-48.
[5] This quote is from, O'Brien JM, O'Brien SJ, Geddes AM, Heap BJ, Mayon-White RT. Tempting fate: control of communicable disease in England. British Medical Journal. 1993;306(6890):1461-4.
[6] Donald Acheson. Public health in England : the report of the Committee of Inquiry into the Future Development of the Public Health Function. London: HSMO; 1988
[7] Department of Health and Social Care. Saving Lives: Our Healthier Nation. In: Care DoHaS, editor.: The Stationery Office; 1999.
[8] Department of Health. Getting Ahead of the Curve: A strategy for combating infectious diseases (including other aspects of health protection). London: Department of Health,; 2002

included: The Centre for Radiation, Chemical and Environmental Hazards; the Centre for Emergency Preparedness and Response; and the Centre for Infections. There was also a division for Local and Regional Services (LARS).[9] Specialist and Reference laboratories were moved to HPA, and the remaining peripheral laboratories were transferred to the NHS, to be funded by Primary Care Trusts (PCTs). Professor Brian Duerden highlighted during a PHE Witness Seminar in 2013, that this initially led to a lot of uncertainty amongst the laboratory staff , and considerable time was spent engaging with the laboratories across the country to ensure they still contributed to public health.[10] The Regional Microbiology Network ensured that a regional microbiologist within each region continued to link with HPA. Lancaster and Pollock report that by 2006, seven laboratories in the Regional Microbiology Network reported to HPA (out of the 44 laboratories). Additionally, HPA had 37 collaborating laboratories.[11]

Over the 10 years of existence, HPA was part-funded by central government, and part through external funding from vaccine development, training and research grants . A Witness Seminar held in 2013 on the history of the HPA, highlighted many of the initial cultural and logistical challenges of integrating 80 diverse organisations from 140 locations . The seminar also highlighted strengths of combining expertise, which was viewed by witnesses positively in anticipating and responding to all public health threats. The HPA was tested immediately with the emergence of Severe Acute Respiratory Syndrome (SARS) in 2003, as well as later with terrorist attacks, Pandemic Influenza, and other major events . The 2013 Witness Seminar highlighted how different expertise enabled cross-departmental learning during times of crisis. Emergency planning exercises, as well as real events were also identified as enabling collaboration across specialisms . The HPA was seen by witnesses as a trusted organisation which delivered on the strategy outlined by Liam Donaldson. Furthermore, HPA was viewed as important for providing advice and evidence across the UK government, and had built an international reputation for its integrated approach to public health.

Public Health England 2013-2020

In 2010, the Conservative and Liberal Democrat coalition government produced their White Paper '*Healthy Lives, Healthy People'*, which proposed radical change to public health in England.[12] This included the establishment of Public Health England (PHE), which would act as one body to protect and improve public health. Their remit expanded beyond infectious diseases and environmental threats, to additionally include preventable diseases, mental health and health inequalities. These changes were formalised under the Health and Social Care Act 2012. The Act abolished HPA; transferring its functions to the Secretary of State.[13] PHE was established on the 1st April 2013 as an Executive Agency of the Department of Health and Social Care, and was directly accountable to the Secretary of State. Professor David Heymann was appointed at Chairman and Duncan Selbie as Chief Executive. In their first year, PHE reported handling 9000 outbreaks from infectious and environmental threats, as well as establishing screening campaigns for non-communicable diseases,

[9] Rowland D. Mapping communicable disease control administration in the UK. London: Nuffield Trust. 2006.
[10] Public Health England. The history of the Health Protection Agency 2003–2013. London: Public Health England; 2013.
[11] James Lancaster, Allyson Pollock. A supplementary report for the Infected Blood Inquiry into structures and funding of the communicable disease control system in England to supplement the response to Q17 in the report of its Public Health and Administration Expert Group (pp.8-13), which was submitted to the Inquiry in August 2022. 2022 15 November 2022
[12] HM Government. Health Lives, Health People: Our strategy for public health in England. In: Department of Health, editor. London: HMSO; 2010.
[13] Department of Health and Social Care. New focus for public health factsheet. Policy paper: Health and Social Care Act 2012: Fact sheets. HM Government2012.

and a national database for cancer.[14] In 2021, PHE was disbanded as the UK Health Security Agency (UKHSA) was established and took over the role of health protection. Health improvement was once again separated from health protection and was moved into a different organisation called the Office for Health Improvement and Disparities (OHID).[15]

National Health Service Reform

Alongside these changes, NHS reforms also led to changes for communicable disease control systems and for public health actors. The NHS Reform of 1974, brought changes with the abolishment of Medical Officers of Health (MOsH). MOsH had played a key role in communicable disease control since the 19th Century, and had worked closely with PHLS in preceding years. Instead, Medical Officers of Environmental Health, which were based in local authorities, were to act as 'proper officers'; receiving notifications of notifiable diseases. In 1988, The Acheson Report recommended that Consultants in Communicable Disease Control (CCDCs) and Directors of Public Health (DsPH) be introduced to re-establish local and regional collaboration. In 1997, further NHS Reform led to DsPH moving to newly developed PCTs, which took over responsibility of emergency planning and health protection. With the creation of the HPA, CCDCs and other staff were then employed by Health Protection Units, which were part of HPA's LARS division . Under the Health and Social Care Act 2012, DsPH were again moved back into local authorities, and were required to publish annual reports on the health of their communities .

[14] Public Health England. Public Health England Annual Report and Accounts 2013/14. London: Public Health England; 2014.
[15] Hunter DJ, Littlejohns P, Weale A. Reforming the public health system in England. The Lancet Public Health. 2022;7(9):e797-e800.

Format of the seminar

This Witness Seminar brings together individuals involved in the public health organisations, the NHS, and the Department of Health. The event was chaired by Nick Timmins who invited participants to speak on the main areas of discussion outlined below. Audience members (observers)- were also given the opportunity to share their views and stories about their experience of organisational change and communicable disease control, and to ask questions. Participants were informed that the witness seminar was to be recorded, transcribed and published. Participants were asked to complete a consent form before the start of the event, and sent the draft transcript to check their entries before publication.

Areas for discussion

1. **Role of organisations within the wider network**
    a. How did each organisation (PHLS/HPA/PHE) contribution to communicable disease control?
    b. How did working relationships change with the following institutions/organisations/actors?
        - Chief Medical Officers
        - Government, including the Department of Health/Department of Health and Social Care; Other government departments; and Devolved Administrations
        - NHS
        - Local Government
        - Directors of Public Health
        - International organisations, such as the World Health Organisation (WHO) and the European Centre for Disease Prevention and Control (ECDC)

2. **The development and use of surveillance systems**
    a. What surveillance systems were used by PHLS, HPA and PHE for communicable disease control, and how did they change?
    b. How did surveillance systems respond to mitigate severe outbreaks of disease?
    c. What were the organisational and governance challenges of the surveillance systems for infectious and communicable disease control?
    d. What challenges did public health peripheral, regional and collaborating labs encounter in balancing clinical and surveillance demands?

3. **Motivations for reform and impacts on disease control**
    a. How influential were international examples for epidemic intelligence in the UK?
    b. What were the motivations for re-configuration of the organisations and what was the impact on communicable disease control?

Participants (with key roles in public health)

Chair

Nicholas Timmins, *Senior Fellow, King's Fund; Senior Fellow, Institute for Government; Visiting Professor, King's College London*

Conveners

Dr Paul Atkinson, *Senior Research Fellow, Department of Public Health, Policy and Systems, University of Liverpool*

Helen Piotrowski, *PhD Student, NIHR HPRU in Emerging and Zoonotic Infections, Department of Public Health, Policy and Systems, University of Liverpool*

Professor Sally Sheard, *Executive Dean, Institute of Population Health, University of Liverpool*

Witnesses

Professor Lindsey Davies, *Public Health Physician (Retired); Department of Health; Faculty of Public Health; Royal Colleges of Physicians of the UK*

Professor Brian Duerden, *Deputy Director and Director Public Health Laboratory Service; Inspector of Microbiology and Infection Control, Department of Health*

Professor Stephen H. Gillespie, *Regional Microbiologist, Health Protection Agency; University of St Andrews.*

Richard Gleave, *Chief Operating Officer, UK Health Security Agency; Deputy Chief Executive and Chief Operating Officer Public Health England*

Professor David Heymann, *Professor of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine; Chairperson of Health Protection Agency and Public Health England*

Dr Jane Leese, *Senior Medical Officer, Department of Health (Retired)*

Professor Nigel Lightfoot, *Director of Emergency Response at Health Protection Agency*

Dr Diana Walford, *Deputy Chief Medical Officer; Director of Public Health Laboratory Service*

Professor John Watson *Former Head, Respiratory Diseases, Public Health England; Former Deputy Chief Medical Officer for England, Department of Health.*

Observers

Professor David Dolowitz, *Department of Politics, University of Liverpool*

Dr Claas Kirchhelle, *Assistant Professor of the History of Medicine, University College Dublin*

Dr James Lancaster, *Associate Researcher within the Population Health Sciences Institute at Newcastle University*

Professor Allyson Pollock, *Clinical Professor of Public Health, Newcastle University*

Peter Roderick, *Principal Research Associate, Newcastle University*

Witness Seminar Transcript

Sally Sheard

It is almost 1.30, and I think, in the interests of time, we will make a start, and hopefully then, Diana will miraculously appear. I've not had an apology from her, so I'm assuming that she is on her way, and likewise Jake Dunning.

So welcome to everybody in the room. For those who don't know me, I'm Sally Sheard, and I am co-hosting this witness seminar this afternoon. I'd like to begin by acknowledging the support of the Wellcome Trust, who have been funding a research project that I've led now for nearly eight years called The Governance of Health that looks at the interface of expertise between different types of advisors: medical, economic, managerial.

The focus of this afternoon's witness seminar is slightly tangential to that main project, and it comes out of a PhD that I'm co-supervising that is funded by the NIHR Health Protection Research Unit in Emerging Zoonoses and Infections, and the person who's doing the PhD is Helen Piotrowski. She is being co-supervised by myself, Paul Atkinson, David Dolowitz, who's joining us on screen, and Roberto Vivancos, who's a Consultant Epidemiologist at UK HSA. [16], [17]

So, I'm going to hand over in a moment to Nick Timmins, who is going to chair for us, and Nick has chaired a number of witness seminars now for us over the last five years, all very successfully and I know this is going to be another absolutely fascinating one.

For those of you who've not been to a witness seminar before, it is a variation on individual oral history methodology. It's an opportunity to bring people together who have been involved in the particular policy development episode and to discuss their shared reflections and understandings. There is a structure for it, which you've all had in advance, so that we can try to just give a little bit of logic to some of the discussion, and Nick will invite people to speak, but also there'll be opportunities if people wish to ask questions. So, we're joined online – welcome David, Peter, Claas, the other David. We are expecting, I think, another two people online as well. David Heymann, you're here as one of our official participants. Welcome.

David Heymann

Thank you. Sorry I'm not there in person.

Sally Sheard

You've had a few technical issues as well, so…

David Heymann

Yes, I'm on my iPhone, so I'll have to –

[16] National Institute for Health Research Health Protection Research Unit in Emerging and Zoonotic Infections Home - HPRUEZI (nihr.ac.uk)
[17] United Kingdon Health Security Agency

Sally Sheard

Okay. I'm going to hand over now to Nick.

Nicholas Timmins

Right, okay. Well, it's a pleasure, privilege to be here. For those of you who don't know me, I'm an almost fully recovered hack. I've written about the NHS on and off since 1974, and indeed, I can remember covering things like Stanley Royd and first Legionnaires' disease, but – and there's a very big 'but' here – I will not remotely pretend to be an expert on health protection or health promotion, and, while I've chaired a number of these, I think this one is going to be quite challenging because it covers a very long timescale. [18] Three separate bodies have been involved in this, but there have been a lot of changes within them, as well as between them, so to speak. So, I think trying to keep all of this focused will be quite tricky. I suspect we'll bounce around all over the place quite a bit, but I'll try and keep some sort of shape to this.

So, it's great to be here. As you know, this is being recorded, and there will be a transcript, which you will see before it's finalised, so to speak, but it would probably help – it would certainly help me, and also for working on the transcript, if we just go around the room and say roughly, broadly speaking, why you're here, and should we mention what Claas is –

Sally Sheard

At this point I will also – point of disclosure in that Claas, who's joined us online – welcome, Class– is going to be submitting evidence, a written report, at the request of the Covid-19 Inquiry, and we have agreed that he will take notes today, but he will not directly quote anybody within his report. [19] If he wishes to do so, he will come to each of you and ask for permission to do that.

John Watson

And just on that note, could I just ask about the transcript you've mentioned? It's one thing for there to be a transcript, but it's another that the transcript is something that has people's names that goes into the public domain, and so what happens to the transcript?

Nicholas Timmins

What happens to it? Well, you get to see it so that you're happy with your words, so to speak, and it will presumably go on the website of –

Sally Sheard

It will go on the main Governance of Health Wellcome project website, and we will print a limited number of hard copies as well, and it will have an ISBN number attached to it, so that we can deposit it in the copyright libraries. [20]

John Watson

Okay, so it's by no means a Chatham House type discussion.

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[18] Referring to a Salmonella outbreak at Stanley Royd Hospital in 1984

[19] The Covid-19 Inquiry is a public inquiry Chaired by Baroness Heather Hallett: About - UK Covid-19 Inquiry (covid19.public-inquiry.uk)

[20] The Governance of Health: Medical, Economic and Managerial Expertise in Britain Since 1948.

Sally Sheard

No, it is not.

John Watson

Right. Okay.

Sally Sheard

And everybody has had a consent form. I think Helen –

Helen Piotrowski

They're all on your tables, so, if you can fill them in at some point today and then hand them to me, that would be great. Thank you.

Sally Sheard

And we've got James about to come in.

Helen Piotrowski

Oh, sorry. I'm not very good at navigating this, am I?[21]

Sally Sheard

No, it's fine. It's fine.

Nicholas Timmins

Right, so shall we just start by briefly saying who everybody is and why they're here? Brian, would you like to start?

Brian Duerden

Thank you. I'm Brian Duerden. I was Medical Director and Deputy Director of the PHLS from 1994/5 through until 2002, and then its last director before the hand-over and transition to HPA. [22] After that, I was appointed to be Inspector of Microbiology, and then Microbiology and Infection Control at the Department of Health.

Nicholas Timmins

Thank you. Jane.

Jane Leese

Jane Leese. I started my career as a Consultant infectious disease physician, briefly in New York and then in the UK. Then in 1991 I joined the Department of Health communicable disease team, with responsibility for a wide range of mainly adult infectious diseases, including influenza, Legionnaires' disease, tuberculosis and travel medicine.[23]

[21] This witness seminar was a hybrid event and we had observers and a witness joining remotely
[22] Public Health Laboratory Service (PHLS); Health Protection Agency (HPA)
[23] Dr Leese adds that 'I was also responsible for the first ever UK Multiphase Contingency Plan for Pandemic Influenza in March 1997 and covered the SARS outbreak of 2002'

Nicholas Timmins

Yep. John.

John Watson

Hi. Yes, John Watson. I'm a medical epidemiologist by training. I joined PHLS, as it then was, in the mid-80s to develop the respiratory disease side of the epidemiology of public health function there, and did that for a good number of years, with a lot of collaboration with the likes of the newly developing European structures, ECDC, and the WHO. [24] I then went onto the Department of Health as Deputy Chief Medical Officer with responsibility across health protection, and now very largely retired, but for continuing work with WHO and University College London.

Nicholas Timmins

Yeah. Lindsey.

Lindsey Davies

I'm a retired Public Health physician, totally retired. I had a chequered career, really. I was a district Medical Officer, district Director of Public Health at district level, and then Regional Director of Public Health in the Trent and then East Midlands regions. I worked for the Department of Health for a couple of years in that, 1992-3, and then again from 2006, when I was the UK Director of Pandemic Influenza Planning until 2010, and then I was president of the Faculty of Public Health, until 2013.

Nicholas Timmins

Right, right.

Paul Atkinson

Paul Atkinson. I'm a historian, Senior Research Fellow in Sally's team at University of Liverpool.

Helen Piotrowski

I'm Helen Piotrowski. I'm a PhD student, as Sally said, with the NIHR HPRU in Emerging and Zoonotic Infections. My PhD is looking at the development of policy for pandemic preparedness since about the 1980s, so this seminar fits in quite nicely with that, to look at the context of that.

Nicholas Timmins

Yep. Richard.

Richard Gleave

I'm Richard Gleave. I joined the NHS in 1995, worked in the NHS through to 2002, when I became NHS performance director, and was involved through the remainder of the Blair years, went off to the States, went back to the NHS. I think some of that NHS performance director may be relevant to this. [25] My primary reason, I think, for being here is 2013, I was appointed PHE Chief Operating Officer, Deputy Chief Exec. I am doing a DPhil in evidence-based health care at Oxford on PhD use of evidence, 2013 to 2020, concentrating on the latter part of that period.

[24] European Centre for Disease Control and Protection (ECDC); World Health Organisation (WHO)
[25] National Health Service

Nicholas Timmins

Right. Yes. Stephen.

Stephen Gillespie

My name's Stephen Gillespie. I am an outsider here because I'm a clinical microbiologist and clinical academic. I graduated from Queen's University Belfast, and was a senior lecturer then professor at Royal Free Hospital, then was the Sir James Black Professor of Medicine to the University of St Andrews. I spent most of my career in clinical medicine. My involvement in public health and microbiology was as a Regional Microbiologist between 2005 and 2010, until I went to Scotland, and then while there I was also working with Public Health Scotland. Thus, I was involved in the 2009 flu pandemic and also in the early stages of the Covid-19 pandemic.[26]

Nicholas Timmins

Right.

Nigel Lightfoot

I'm Nigel Lightfoot. I started off as a doctor and I joined the Royal Navy and served in submarines for fun. I then trained in medical microbiology, working with the PHLS as a Naval Officer, and then, at the end of my Naval career, joined the Public Health Laboratory Service as Director of the Taunton laboratory, a rural sort of job, and then I went out to Newcastle-upon-Tyne, and it was up there that Pat Troop rang me up one day just after 9/11 and said, 'Could you come and work at the Department of Health, please?' and I said, 'When?' She said, 'Tomorrow'. I thought I was only – I told my wife I was going to London for a year, and I spent 10 years, but it started off in the Department of Health, working on the policy and strategy for terrorism responses, and then I was appointed – I was seconded from the PHLS, and then I moved to be Director of Emergency Response at the beginning of the HPA, and, I suppose, yes – I haven't retired. I'm still working as a consultant in various countries.

Nicholas Timmins

Diana, welcome. Can you –

Diana Walford

Thank you. Oh, well, a) I'm sorry to be late, but, b) I'm Diana Walford. I was formerly the Director of the Public Health Laboratory Service. Haven't got the dates fixed in my mind, but it was probably 1993 to 2002 Before that, I was the Deputy Chief Medical Officer – a Deputy Chief Medical Officer – for England in the Department of Health, and one of my roles in the Department of Health before that post, I was in charge of the infectious and communicable diseases and food microbiology division.

Nicholas Timmins

Thank you, and welcome to all those of you who are online, if we can just carry on doing that. Can we start with you, David Heymann?

[26] Coronavirus disease 2019

David Heymann

Thanks. I'm sorry, again, not to be with you today – many colleagues here. I'm a medical epidemiologist. My career was with CDC, first in India for two years in Smallpox Eradication, sub-Saharan Africa for 15 years, 13 years on various field research activities, and then at WHO – I was seconded to WHO, where I was in charge of communicable diseases and health security at the end of my career there.[27] In 2009, I moved to UK and became Chairman of Health Protection Agency, which, at that time, was a statutory body, and – well, we can talk about that later, and then after that I stayed on as Chair of Public Health England for four years. Thank you.

Nicholas Timmins

Yes. Claas.

Claas Kirchhelle

Yes, so thank you very much for having me. My name's Claas Kirchhelle. I'm an Assistant Professor of the History of Medicine at University College Dublin, and I've written quite a lot on the history of public health and microbiology, but also antibiotic innovation, and four weeks ago I was contacted by the Covid-19 inquiry who wanted to have historical reports, almost immediately on all of public health in England since 1945. So that's what I'm currently writing. I'm very grateful to be allowed to listen in today, and, again, just to confirm, I won't be quoting anybody directly. This is more to, I would say, provide colour to a report which is mostly based on reading administrative documents.

Nicholas Timmins

Right. Peter. Peter Roderick.

Peter Roderick.

Thank you very much. I am an academic based at Newcastle University. I'm a lawyer by training for 40 years in different guises. For the last 10 years I've been studying NHS law, and since the pandemic in 2020, looking very carefully at the development of public health legislation, specifically, and working on a number of issues with colleagues also observing today, and I'm very grateful to the opportunity to listen in. Thank you very much.

Nicholas Timmins

Great. Allyson. Allyson Pollock.

Allyson Pollock

Hello. Hi. Thank you very much for inviting me to be an observer today. I'm a Public Health physician, and I've been working with Peter and James and more recently with Claas. We wrote a couple of reports for the Infected Blood Inquiry on developments in the communicable disease control system, and that's why we are here.[28] We realised there's a very large gap in that account, and we will be continuing to work on the history and evolution of the systems for communicable disease control. So, thanks very much. It's great to be here. Thanks, Sally.

[27] Centre for Communicable Disease Control and Prevention in United States of America (CDC)
[28] Homepage | Infected Blood Inquiry, https://www.infectedbloodinquiry.org.uk/

Nicholas Timmins

Okay. David. David Dolowitz.

David Dolowitz

Hi. I'm David, and I work at University of Liverpool, and I'm currently one of Helen's supervisors, and I am appreciative of the opportunity to be an observer here.

Nicholas Timmins

Great, and finally, James. James Lancaster.

James Lancaster

Hi there. Yes, sorry. I'm James Lancaster. Thanks. I've been working – looking at lot of archival work, actually, looking at communicable disease history and especially looking at the Public Health Laboratory Service from the 1970s and '80s and '90s. So just a general interest in public health and understanding the history of that through the late 20th century.

Nicholas Timmins

Okay, great. Thank you very much, and we'll do our best to keep the people who are online and people in the room together, so to speak. Diana, this is deeply unfair seeing as you've arrived slightly late, but I thought for the first one we'll just go rapidly through to sense what the contribution of each of the three bodies there have been there has been to communicable disease. I thought we'd start with you and then Brian for PHLS.

Diana Walford

As you say, deeply unfair.

Nicholas Timmins

Sorry, no warning, but…

Diana Walford

But I'll try. As you would expect me to say, I consider the contribution that the PHLS made to the surveillance and monitoring of communicable disease and also to the public health diagnostic, microbiology, and to the epidemiology of communicable disease – personally, I feel it is second to none.

It was at its peak, which was, I think, shortly before there was a transfer over to the HPA – I think it was doing extremely good work, and I think we can see that from the numbers of outbreaks that were tackled. In a national context, I'm obviously talking about, but also in the local context, and I think it had, at the time, a pretty unique advantage, if you like, and that was its network of local public health microbiology laboratories, and those of course vanished when the transfer to the HPA took place, and I'm looking forward to hearing from others whether or not there was a perception, at all, that the loss of those public health microbiologists in what we call the peripheral laboratories in the network was deleterious, or whether the new arrangements, which were set up – and, of course, I then had left the PHLS, so I don't know.

It's a genuine question whether that loss was felt at all, or whether there was significant disruption after the transfer, which meant that, however things ultimately settled down, they were perhaps not

as well coordinated as what had gone before, but I'm very much looking to hear from others whether that is so or not.

Nicholas Timmins

Right. Brian, do you want to…

Brian Duerden

Thank you. I think the greatest strength of the PHLS in this was the integration of and working together of the laboratory and the epidemiology aspects of communicable disease investigation and control. You can't control it if you don't know actually what you're dealing with. You need the work from the laboratories, the identification of what's causing the infections to feed in and work with the epidemiology colleagues, and this was seen pre-1990s. The famous cases were with the food poisoning outbreaks, Stafford and Wakefield, and the Legionnaires' disease investigations that went on through the '80s and '90s where you had both arms working together.

The laboratories were integrated in the sense that they were working to – by the 1990s, we had them all working to standard methods, the same methods. All the laboratories were accredited, which was not always the case with all laboratories at that time. We pushed ahead with that. Same, standardised methods, and similar equipment, and perhaps that reached its peak in around 1999/2000, when we took the decision to install molecular diagnostics in each region, so that every regional laboratory had the same set of equipment working to the same methods.

Now, at a purely diagnostic point of view, that was only just starting to develop in most of the laboratories in the country. There was academic work going on in this. If you were in a university setting, fine, but outside of that – and we decided that we would have that available throughout the country, and because the PHLS was then working in regional groups, with the more peripheral laboratories integrated with their regional laboratory, everybody had access to that activity, and of course, the first things to be linked to that were the respiratory infections. That was the first focus, but that was something that we could do on a national basis and feed the information from that in.

Also, all the laboratories had a much stronger obligation to provide material to the Central Public Health Laboratory for further identification and typing, which was not always necessary, not particularly necessary, for the treatment of the individual patient, but was vital for understanding the spread, and I hope one thinks now of salmonella in eggs, salmonella in baby food around the country, Listeria in coleslaw and such products. There was a way of scanning the country to get that material and getting the information centrally.

Nicholas Timmins

Right. One change in the great long history of PHLS was of course the 1974 reorganisation, which is presumably beyond the memory of most of us, just about, but the disappearance of Medical Officers of Health and the transfer of communicable disease into the NHS. I am just old enough to remember going to the valedictory conference of the Medical Officers of Health, and I must admit, I came away with the impression that the good ones were very, very good, but the average was not very impressive, which may or may not be fair. I mean, do people have a view on whether that was the right thing to do?

Nigel Lightfoot

I just wanted to add a little bit about my expertise, I did my training in Public Health Laboratories while I was in the Navy. Part of that was in the London Hospital, and where I was labelled as a Public Health Microbiologist because I was interested in infectious diseases, bacteraemia, plague,

etc. I used to go to conferences, and found that the microbiologists used to compare their antimicrobial sensitivity rates for various organisms, and that was the big difference with what professors did in those days, whereas the Public Health Laboratory Service just got on with it.

It was really exciting, and I found that when you work in the Public Health Laboratory Service, you actually have to interact with a lot of other agencies around you. I was interacting on a regular basis with 32 local authorities and all their people, and I was interacting with the Regional Director of Public Health and others. The PHLS used to bring its Directors together at very regular intervals, and that was an amazing opportunity to learn from everybody else.

So, in a way, as Diana was saying, it was perfect, but the problems started before 2003, and the 'Getting ahead of the curve' [report], because I was in a laboratory – I was in Newcastle, and I'm still there in Newcastle, and we provided services on a large scale in virology and other things, food and water, for a big region, and we also provided for other hospitals. [29]

But what happened was, outside the PHLS, it was decided to change the NHS, and the NHS started with Lord Sainsbury saying, 'This is how you manage the NHS'. There were no managers when I was in Taunton, but they were brought in , and you found that when you delivered services to a local hospital, and you had to negotiate a contract, then they unilaterally said, 'We're going to buy some kits and do our own now, so we will not be paying you this amount of money for this service you have been giving us over the last years', and you go, 'What? Help?' and a hole in the budget for the PHLS, and those changes started in the 1990s.

[Crosstalk]

Nicholas Timmins

1991.

Stephen Gillespie

Can I make an observation? It might be relevant to what Nigel has just said. My background as a clinician in various stages of my career is that I did my NHS at the Royal Free, and from our perspective the PHLS almost didn't exist except to send samples over for specialist testing, especially if you were in a region, like London. London did not have much of PHL involvement, apart from hosting Colindale. It was a major weakness in a sense as you didn't interact with public health microbiology much. I was interested in public health microbiology, but working within the NHS and that wasn't a popular thing to do.

So part of the issue is that when the PHLS was there, it worked very well, but there were so many places it wasn't, and it's that relationship between that good public health microbiology and the rest of the country and the NHS, which was a thing, I think, throughout the period we're talking about, was a struggle to, 'How do you manage the PHLS itself, which is a big organisation with lots of egos to deal with, and then interact with the NHS, which is an even bigger organisation, and had completely different objectives.

Nicholas Timmins

Yes. John.

[29] Department of Health. Getting Ahead of the Curve: A strategy for combating infectious diseases (including other aspects of health protection). London: Department of Health. 2002

John Watson

I just want to come back to your original question about the 1974 and the moving of the Medical Officers of Health — and one of the things about reading this document, which we were provided by way of background [prior to the witness seminar], was that one moment they were here and the next moment they were back there. It seemed to miss the point that public health function, whether it be at the local level or the national level, was not an issue just for local authorities, nor just for the NHS. It was very much an issue for both, for which there needed to be really good coordination and working together. Placing those key public health people, including the communicable disease function, in just one, was always going to miss the target.

Nicholas Timmins

Do people agree with that, broadly? Brian.

Brian Duerden

I think it's salutary that, having disbanded the Medical Officers of Health in 1974, and then there was the interim of Medical Officers of Environmental Health, and I was never very sure just what they were doing apart from, -from our point of view-, receiving statutory notifications, and then, after the Acheson Report, the re-creation of somebody with the CCDC title, the Consultant for Communicable Disease Control. [30]

At that point, we did not have people trained to do that job who had both Public Health and Infectious Diseases and Microbiology training. I remember vividly, in something of a hurry, working with a colleague in the faculty – I was at the Royal College of Pathologists, chairing the microbiology committee – working with my opposite number in the Faculty of Public Health Medicine to put together a training programme for CCDCs that could either be if you are going to do that job from scratch, or for people who had a public health background, to give them the microbiology, or for the microbiologists to get the public health stuff into it, so that we actually had people who knew what they were going to try and do, in this new role which is really a recreation of this aspect of the Medical Officers of Health role.

Nicholas Timmins

Right. I'm going to ask one more thing. The other big NHS event was the creation of the internal market, as you already mentioned. Was that very disruptive?

Stephen Gillespie

Yes.

Diana Walford

Yes. Well, I was trying to think of a more comfortable way of saying, 'Yes'. It was extraordinarily disruptive. It introduced an element of competition that is wholly inimical to public health and to communicable disease control, and everybody was in competition with everybody else, and a lot of macho stuff going around. When I had been in the Department of Health, I was, for my sins, in charge of GP fundholding, and we found that a number of GP fundholders thought it was going to be cheaper, more efficient, effective, or whatever it is, to contract with veterinary laboratories to have

[30] Written by the Chief Medical Officer Sir Donald Acheson. Public health in England: the report of the Committee of Inquiry into the Future Development of the Public Health Function. London. HMSO (1988)

the testing done on the patient's microbiology. So, I think that the introduction of competition in a service that ought to be joined up at every single sinew was obviously detrimental.

Nicholas Timmins

Right. Can I just bung one bit of devil's advocacy in, which is one effect of the internal market is that people had to work out their costs properly –

Diana Walford

– but they never did.

Nicholas Timmins

Well, I'm just asking whether that had any positive affect at all?

Stephen Gillespie

The whole point was that everything took an enormous amount of time. Instead of being able to phone up your friend to say, 'Can you do this for me?' 'Yes, I can', you had to have a contract with them, which means you've had to spend three months talking to your management and organising a contract, just to do something you used to do with a phone call. So, it was a bit disruptive.

Brian Duerden

It was hugely disruptive as well for the PHLS, because the laboratories up until then had been staffed by some people who were PHLS employees, some who were NHS employees. They all had to come across to the PHLS, which was a huge undertaking, and just distracted from getting on with the main business, and it still didn't result – I don't think it resulted in us getting true costings of the difference between clinical and public health what is the difference between a clinical sample and a public health sample? Very often it's the same stuff.

Diana Walford

The transaction costs were enormous, and the time – which is one of the transaction costs – it took up – the one thing that it gave some of us in the PHLS was more experience of using the TUPE Regulations than any other body in the whole of the UK, I think.[31]

Nicholas Timmins

Right, right. I mean, the number of laboratories moved over the years as well. Was that a result of financial pressure, or was that simply because of the way the work was changing, and it made sense to run on fewer peripheral laboratories over time?

Stephen Gillespie

You might ask that question in a different way. Was the number of laboratories planned in a way to deliver a service that had performed the public health function?

Diana Walford

Absolutely the right question.

[31] Transfer of Undertakings (Protection of Employment) Regulations

Stephen Gillespie

The answer to that is, 'Definitely no', because we ended up with the labs that we had, not necessarily the labs that we needed. That's not a criticism of any of the labs involved, but it's just the geography we had.

Nicholas Timmins

And that was just historic –

Stephen Gillespie

Yes.

Nigel Lightfoot

And the history is the setting up – the Directors of Public Health were university professors, Oxford, Cambridge, or wherever – very good people, but they were sent out in 1947 – or no, early on during the war. They were sent out to laboratories. In a way, they chose where they wanted to go and live, and so laboratories were set up and they were very powerful people, and so I think there was some logic behind it, but it didn't get everywhere, because probably none of them wanted to work in London.

Stephen Gillespie

Well, there was no PHL involvement really, apart from – Colindale was a national centre, but there was no integration of the NHS day to day in that sense.

Nicholas Timmins

Diana.

Diana Walford

Well, if I just might take up Professor Gillespie's point. I mean, it's absolutely right that certainly when I arrived at the PHLS and tried to see the rhyme or reason as to why laboratories were where they were in the country – there wasn't one, as far as I could see, but we did realise there was a real deficit of Public Health Laboratories in London, so in 1990, maybe – something like that – my dates are not exact – we put out a tender for collaborating centres in London, and it was a huge competition, which was very gratifying, but that was because we were actually paying some money for people to be collaborating centres, and we got four excellent collaborating centres, and they were paid, if you like, to be not actually PHLS centres but actually collaborating with the PHLS as if they were PHLS centres, and so providing all public health data that we wanted.

Nicholas Timmins

Right.

Brian Duerden

A quickie as to why originally there was not much – in London, or very little – the disparity between Oxford and Cambridge people who'd established the PHLS and the London medical schools who were running medicine in London. There was historically –

Stephen Gillespie

Different objectives.

Brian Duerden

Different objectives there.

Stephen Gillespie

The collaborating laboratories were tremendously useful when I became Regional Microbiologist for London. They were the immediate place that I could do and get the link into the NHS, so they turned out to be really useful centres.

Nicholas Timmins

Right. So, at this point I think we might move onto Health Protection Agency, and David, you were chairman of that. Can you do the sort of compare and contrast?

David Heymann

Yes. Well, when I came into the HPA, I came in with two specific requests in addition to the terms of reference of the board chair. One of those was to increase the global footprint of the agency, following the 'health is global' plan of the Chief Medical Officer, and the second was to make sure that there was a consolidation not only of people working together, but of budgets, because the budget ceilings were still based on what had occurred in the individual agencies, over 70 agencies that had been brought together. So those were the two tasks with which I was charged, but in addition, of course, it was the day-to-day management of HPA, which at that time was a statutory body.

We realised early on, I think, Justin McCracken and I, that there could be a lot more done within the agency, as far as health promotion and activities that fit in with public health, but which were dispersed. Some of them, actually, within the Department of Health, and when the change came, I think we were quite pleased that now the HPA was not just an agency dealing with infections, but, like the CDC in Atlanta, and like many other public health agencies, was also becoming responsible for health promotion and healthy lifestyles, and more equitable distribution of the benefits of public health. So, I never had any concern about these changes occurring, and I think, in the end, we ended up in the UK with a very good and comprehensive public health agency at Public Health England. This was very important in preparedness, as we all know, because unhealthy populations with co-morbidities such as diabetes are those who have serious illness associated with infections.

So, the noncommunicable disease and the communicable disease activities were working closely together, and this, I felt, was the way forward, and in fact many agencies in Europe followed this. Public Health France, for example, followed exactly what the government of UK had done, and Santé Publique France is an agency that's functioning as PHE used to function, and, in fact, there are some UK public health experts who are on the Santé Publique France board.

Regarding the initial two specific requests when I assumed the role of HPA, and then PHE, we were able to broaden the footprint globally, which was very important at that time to the Chief Medical Officer, and I think we also were able to consolidate a bit better and make a more uniform budget, but I think Richard could speak more to that, knowing that he was responsible for operations in PHE.

Nicholas Timmins

Right. I'll come back on two points of that. The statutory status of HPA was very much Arm's Length, unlike PHE, which is an Executive Agency in the Department. What was the status of PHLS?

Diana Walford

It was a Non-Departmental Public Body (NDPB).

Nicholas Timmins

Right. So, there was a – well, certainly people sitting on the outside saw the change from the HPA being a statutory independent body, effectively – obviously answering up – to becoming an Executive Agency as possibly – well, I was a journalist. I'm in favour of independence and independent experts, because the more independent they are, you kind of feel that public will trust them. So, would you like to comment on that?

David Heymann

Yes. It was much easier to keep an independent board functioning and an independent agency functioning when it was HPA, and there were also certain levers – I'm sure Nigel could talk about that – that could be pulled when there was an outbreak that permitted a closer work relationship with the regions and out further, which decreased in Public Health England to a certain extent. So, there were many advantages to HPA, and when it became Public Health England we had guarantees that said independence would be respected, and I think it was. At least during the first years it was respected, as far as I'm concerned, but, again, others could tell you more about that as time went on, including many around the table.

Nicholas Timmins

Does anybody want to comment directly on that? And we'll come back to something else in a second. Yes. Richard.

Richard Gleave

So, there are always multiple things going on at any one time, and the risk is that we focus on this legal statutory thing and don't talk about the other things. So, I think, in my observation from having been in the NHS, in the Department [of Health], back in the NHS and into PHE as an executive agency, is that we have seen a clear change in the way in which ministers relate to the health family of Arm's Length Bodies, whatever their legal form is. So, I think we've got that happening, and that is getting much, much closer, and I think that's continuing. So, I'm saying –

[Crosstalk]

Nicholas Timmins

– unwritten constitution we had. The behaviour of the ministers is more directive –

Richard Gleave

So, if we look at the 2010-2020 period, I think ministers were much closer to all Arm's Length Bodies than they were in 2000-2010, which is another period that I've got personal experience of. So, in my two periods that I've had, it changed, and I'm not saying that the difference between being a Non-Departmental Public Body and being an Executive Agency doesn't exist. I think there is some debate about that, though, if I reflect on my personal experience, the biggest difference was civil service pay versus NHS pay. That had a massive impact upon staff and on lab staff, because the two were hugely different and that created huge operational problems. In terms of closeness to ministers, if I look back on the 2010 to 2020 period, there were lots of Arm's Length Body chief execs that were really in and out of the Department ministers' offices all the time.

Nicholas Timmins

Yep. Regardless of the statutory –

Richard Gleave

And I was never party to a conversation which goes, 'Ooh, they're an executive agency. They're'… because I think most people forgot the legal form of the ALB. They were just part of the health family.

Nicholas Timmins

Yep. Right.

Richard Gleave

John might have a view, because you were involved in some of those discussions?

John Watson

The only point that I wanted to add to that was that however a national public agency was organised, and its statutory placement, there was surely always going to be a problem that part of its function is an advisory function, based around evidence, for which a clear element of independence is really important, and on the other hand, a service delivery element – the delivery of those public health functions, for which integration and coordination with the NHS is so very important, and anybody that tries to do them both and comes under the one umbrella – there's going to be a tension, a struggle.

Nicholas Timmins

Yes.

Stephen Gillespie

If I may just briefly, the advantage of being an Arm's Length Body for HPA was in the title, as it were. You're at arm's length, and therefore, we felt entirely free to criticise government policy, and to advise them in a way that they may not wish to hear, and having worked north of the border, that was much harder, because the government had a clear view. So being an Arm's Length Body was important. I can't comment on what it was like being in Public Health England, because I never worked there, but we did feel, in HPA, we had an obligation to be honest and say the difficult!

Lindsey Davies

I can make a brief comment –

Nicholas Timmins

Lindsey, yes.

Lindsey Davies

– because one of the things I should have said in what I have done, is I was co-opted when I was president of the Faculty [of Public Health] onto the board of the HPA, so I did see it with David for that brief three years, and I'd come straight from, at that time, being a civil servant onto the HPA board and Faculty, and it was so refreshing to be able to say what you thought, and actually tell people what you were thinking, and know that there was a sense of freedom around that table, but also based

on an understanding of the nature of the relationship between the body and the Department of Health and HPA and wider-world the NHS outside.

So, we weren't totally liberated to say whatever we thought, and just go for it. Very aware of context, but nonetheless able to express views and be perhaps more robust in expressing them and know that you could get that message through in a way that had been more difficult and constrained and always is by the nature of being civil servants. You watch what you're saying, how you say it. It's a slightly different relationship. So, I just noticed that when I was round that table it was a particular thing.

Nicholas Timmins

And you argue that it was a good thing.

Lindsey Davies

Yes. I thought it was a good thing. - Because it was used judiciously.

Nicholas Timmins

Yes. Well, that has to be true, doesn't it? Because I mean, Arm's Length Bodies can commit suicide if they go too far, so to speak, but you can make the case it's important that they judiciously use the greater independence they have. Jane.

Jane Leese

I wonder what extent the issues of the day reflect how much Ministerial involvement there is in these bodies?

Nicholas Timmins

Yes. David, you had your hand up. Do you want to come back on this?

David Heymann

Yes, thanks. The relationship that we had in HPA with the minister, and with the Secretary [of State], was quite close. We were very careful to brief before a report came out that might cause any difficulty, and there was not to my knowledge a request to retract. We kept ministers informed, and the relationship with the Chief Medical Officer (CMO) during HPA was much easier than was the relationship with then Chief Medical Officer when it became PHE and was a part of the Department of Health.

Nicholas Timmins

And why was it easier?

David Heymann

Pardon?

Nicholas Timmins

Why was it easier?

David Heymann

Because there was better access, there was more immediate response.

Nicholas Timmins

Right.

Nigel Lightfoot

And you have to remember that the CMO really created the HPA. His work 'Getting ahead of the curve', and doing various things, because 9/11 had sent a big signal out to people in charge of things, was that you had to join together the responses for chemicals, radiation, etc, with microbiology and infectious diseases, and that happened. The CMO was very busy at that time working in the Global Health Security Initiative of G7, and I got involved in that.[32] I worked alongside him doing a lot of that, and it was about – we were working internationally and joining everything together, and the HPA took the microbiology and the infectious diseases, which we all agreed was excellent, but added the other pieces to it. Again, it was a difficult process, because people like working in silos, and joining people together –

Nicholas Timmins

It's things like the National Radiological Protection Board coming in, and Chemical – whatever it was called – came in, and – yes.

Nigel Lightfoot

And my appointment was as Director of Emergency Response, so I had to join them all together.

Nicholas Timmins

Yes, and I've read the very, very good witness seminar that the HPA did as it handed over to PHE, and it's clear that was hard work putting it all together, but reading that struck me as very, very valuable. [33]

Nigel Lightfoot

So yes, I think it was important to create the HPA.

Nicholas Timmins

Can I come back on something else you said, David, which is – I hadn't really realised this, but HPA got into health promotion as well as health protection?

David Heymann

No. I'm sorry if you misunderstood. What I believe I said was that when HPA merged into PHE, it became involved with health promotion.

Nicholas Timmins

Yeah, no, exactly. Yes, right. Fine.

[32] The Global Health Security Initiative was launched in 2001

[33] Public Health England. The History of the Health Protection Agency 2003–2013. Public Health England (London: 2013).

David Heymann

It makes a lot of sense, because it creates healthier populations that can better resist serious illness associated with infections.

Nicholas Timmins

Yes, so to go back through the history, up until then we've had things like Health Education Council, various health promotion bodies, knocking around in Department of Health and taking some responsibility for this.[34] Sorry?

Lindsey Davies

Health Development Agency.

Nicholas Timmins

Yes, Health Development Agency, and something I would be quite interested to explore – I mean, you have argued that bringing the health protection or promotion together was important. I've heard that said. I've also heard it argued that possibly during PHE's time health protection kind of lost out a bit, because the remit is so broad, health ministers were very interested in the healthy lifestyles, obesity, health promotion, what have you, and paid less attention to health protection, and I was very struck by the – this may be jumping too high.-I was very struck by the last letter from the minister of state to PHE, 2019, i.e. ahead of the [Covid-19] pandemic, which is kind of the marching orders: 'These are the things which you want to concentrate on', and it's almost entirely about healthy lifestyles in one form or another, bit about immunisation, bit on the side which says, 'Oh, finish off that new laboratory at Harlow', but if you read that letter cold you're quite pushed to recognise that part of this job of this agency was health protection. Is that unfair? And therefore, actually putting the two together may not be a good thing, even though there's clearly overlap and there are arguments for.

David Heymann

Vaccinations against infectious disease are in fact a health protection matter.

Nicholas Timmins

Indeed.

David Heymann

What isn't a health protection matter was obesity and the issues that come from unhealthy lifestyles. Those are not part of the activities as far as I know, but John and Nigel may correct me, but they were not activities within HPA, as such. They were held within Department of Health.

Nicholas Timmins

Yes.

Nigel Lightfoot

Yes. Correct.

[34] The Health Education Authority was created prior to the Health Development Agency

Richard Gleave

I have also looked through the remit letters, and tracked them, and they do not reflect the balance of spend and staffing that existed in Public Health England, because that was approximately 60% health protection activities and 40% health improvement– and the remit letters are very different from that.

Nicholas Timmins

So –

Richard Gleave

So, I think there's both a normative question and a realpolitik question here. So, there's a question of, 'In theory, should this be a good way of working?', and then because of externalities, 'Is it actually going to work?', and I think we need to just tease out those two different questions, because David's putting forward a strong case, that is the normative case: 'This is how it should operate. There is an inherent logic here'. The counterargument that you are going on about is really reflecting political pragmatic response in that situation.

Nicholas Timmins

Yes, so what would your answer be to those two questions? Your answer would be to –

Richard Gleave

My answer – so I think there is a strong argument for having the three domains of public health together. There are some real benefits from that, really focusing on that, especially at a regional level, but some of the exchanging about, 'How do you decide what is relevant evidence? How do you analyse that? How do you combine a biomedical model of evidence with a broader set of knowledge, and put those two together?'

Those are all advantages that come out of that around it, but I do recognise that political reality, which means that ministerial interest doesn't just drive what's happening in an Executive Agency. Remit letters exist for Non-Departmental Public Bodies, just as much as they do elsewhere, and if that is the way ministers are, how do you then ensure that you have, in effect, an infrastructure that is there in the country law to deal with outbreaks and incidents, and is able to escalate when you get into major emergency situations?

Nicholas Timmins

Yes. Diana.

Diana Walford

Is it fair to say that actually we can see what ministers now think about having the two functions together? Insofar as they just separated them. So, it's almost as if Covid was a massive and horrible experiment and that has then driven, whatever its virtues, these two agencies apart if you like.

My own concern was always, in fact, even when the HPA was mooted and then became a reality, was it might take the eye off the infectious disease ball, and these three institutions, excellent in their own ways, that were being brought together, actually had disparate functions, and the full focus, which the PHLS had solely on communicable and infectious diseases, and their surveillance and so on, was that it was inevitably going to be diluted, and my worry was always, 'Isn't that dangerous? Isn't it potentially dangerous?', and I just think that actually history has shown that potentially having

an organisation which is focused on communicable and infectious diseases and its surveillance and prevention seems to have an advantage over bringing everything together.

Nicholas Timmins

Can we have others' views on that?

John Watson

I think the way I see the counterargument to that is that protecting the public's health, even with respect specifically to communicable disease, is not just the business of people who can see it down a microscope or diagnose it by putting hands on or count the numbers of cases. It's so much more. Health promotion, healthy lifestyles, the environment in which people live, plays such an important part in that business, which is the core job of a national Public Health agency, which is to protect the people's health. You need to bring all those things together to be effective in protecting people. Albeit when there's a crisis, you need to have the very particular specialist skills to do the job necessary in that crisis. My feeling was always that it's really important to have these broader groups of public health expertise together to focus on the overall job of protecting the people's health.

Nicholas Timmins

And to do that you think you need one organisation?

Professor John Watson

Oh, fair enough. Perhaps not necessarily, but if it's not one organisation, you've got to have a really very good way of ensuring that they all work together and integrate very well, and I think that's not so easy across organisational boundaries.

Nicholas Timmins

Yes. Brian.

Brian Duerden

The relationship between the HPA and the government as a body – it's with some independence. There was an additional element that the CMO created, which ran for most of the time of the HPA, from 2004/5 to 2010, and that was the post I held as Inspector of Microbiology. There hadn't been one before, there hasn't been one since, but it meant that within the Department of Health there was a person with experience of Public Health microbiology – put it that way – directly accountable to CMO, and in more than weekly contact with ministers, working very closely, as I needed to do and wanted to do, with HPA colleagues, because they're out in the field implementing policies.

It meant there was an additional element there of that link between what government wanted and I could have, at times, of a very raucous Secretary of State for Health in my ear saying, 'So-and-so, do something'. The people who could do it were the HPA colleagues. That was an element that went on for seven years of the life of the HPA, which was actually most of it, and was something that, in a sense, hadn't happened before, hasn't happened since, but did impact on the work that we were doing joining it together.

Nicholas Timmins

Right. I'll come to you in a second. Lindsey.

Lindsey Davies

I just wanted to come back to the question of two organisations versus one, or many organisations versus one, because it seems to me that the downside of moving those bits of public health into one thing at that level – you might have to handle all three at district and at regional level, and it's doable, but what we needed – and we might come onto this later, probably – what public health in the field needs is to know that it's got focused expertise and support when it needs it, available when it needs it, and it's there, and it's focused on, both infectious disease control and the other bits of environmental health, but also to health promotion.

But putting those two together with the dilution – the necessary dilution of managerial time across the lot – it saves money, you might say, but it doesn't actually necessarily improve the quality of what's available to the system that needs it, and what's important is a system that functions well and that people understand, rather than that it's necessarily, 'Force it all into one organisation. It will be fine'. It won't, necessarily, and I don't think necessarily it was because of that emphasis that was lost. It was bound to be lost a little bit along the way, despite everybody's best intentions.

Nicholas Timmins

Yes. David, Richard, would you like to comment further on that, going around this issue?

Richard Gleave

So we've got another one of the trends going alongside what we're talking about, and that is levels of funding that were coming into public health and my experience in the NHS, at local level and at regional level, was that public health struggled to get funding against the NHS at multiple different levels around it, and clearly there was a significant change in levels of funding between what was happening in 2012 and what happened in 2013/14 around that, and that continued in the public health field, be it in PHE or local government. The NHS had growth, rather than decline, but less growth than most commentators were saying was needed.

So, I think we've got to put those things alongside that. What is the best arrangement for getting the right amount of money necessary to do the job into system, and what are the necessary organisational arrangements that sit alongside that? I don't know a clear answer to that. It's a speculative answer anyway, isn't it, around it? I think that many people hope that having one agency would be a more powerful voice, and you can see how in theory that might be a valid position, but it might be that you also have all your eggs in one basket, and therefore it's a weaker voice.

Nicholas Timmins

Yes. Yes.

Sally Sheard

Can I just for context put in – it's not a question. It's just a comment that at the time that Liam Donaldson the CMO was setting up the HPA, he was also dealing with considerable pressures on his own post, and a broad push for a reform of the medical civil service. I think that has an implication for the way in which he saw the opportunities for HPA, and Brian, also for having your role as an Inspector of Microbiology, and then shortly after all of that of course, in 2006, there was a decision taken to abolish the Standing Medical Advisory Committee, which although it may have been thought to have run its course, was an important piece of evidence collation and formal presentation of issues that were emerging at the time.

Dr Jane Leese

There were big changes in the Department of Health as well. In response to a political commitment to reduce the number of civil servants, which had over the years, expanded hugely, a large number of professional rather than administrative, staff were moved into the new HPA, depleting the Department of these skills -Well, the people in the Department were sometimes middle men, but really important, because they knew the subject, knew what they were doing, had close liaison with their colleagues in the HPA. I think it made communication between the two organisations easier with people embedded in the Department of Health who knew what they were talking about, I think.[35]

Nicholas Timmins

Yes. I'll come back to you in a second David.

Professor Stephen Gillespie

The challenge of communicable disease control is that much of the time you have two sorts of threats. There is the background management of endemic infection, and then there is the pandemic emergency situation, and the challenge is, from the organisational point of view, is that when there's a Covid epidemic you need many, many more people than you need when you're just dealing with the day job.

So how do you create an organisation that can do the day job and can expand with expertise to address the pandemic? And especially in the context where the day job is often supported by people who are working in the health service, not doing public health work, *per se*. That in a sense requires a clear delineation of what the public health responsibility of the NHS is, which I remember saying to some of my colleagues in hospitals I will not name, 'You know that the NHS has a public health obligation'. They said, 'No'. So, it's a real challenge. So mobilising resources in the NHS is very, very difficult. So, from the politician's point – from the government's point of view, 'How do you maintain an effective army, when most of the time you are not at war?'

Nicholas Timmins

We'll come back to that. David, you wanted to come in on a slightly earlier part of the conversation.

David Heymann

Pat Troop and I were discussing HPA a few years before I came to the UK, and her explanation to me was that HPA was set up because the UK had learned a lesson in BSE, and didn't want the government to ever again be accused of not having provided the information when it was available.[36] HPA had therefore been established as an independent body that could shoulder that responsibility. That was my understanding from Pat Troop.

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[35] Dr Leese further adds 'I think they had provided an important link between the PHLS, and other professional bodies, and the Department. They knew their subject, understood the political framework and liaised closely, particularly with their colleagues in PHLS. I think it made communication between the two organisations easier with experts embedded in the Department and helped to relieve PHLS staff of some of the burden of providing political briefings while trying to get on with the day job'
For further information of reform of the Medical Civil Service please see S. Sheard. Quacks and Clerks: Historical and Contemporary Perspectives on the Structure and Function of the British Medical Civil Service. Social Policy & Administration. Vol. 44, No. 2, April 2010, pp. 193–207. DOI: 10.1111/j.1467-9515.2009.00708.x

[36] Dr Patricia Troop, Deputy CMO (1999-2002); Director of HPA (2003-2008).

Nicholas Timmins

Right. Right. When Stephen was talking just now, you were nodding, Richard, quite vigorously about –

Richard Gleave

Yes, and I also just wanted to say I agree about doctors in the Department, because actually that was another variable that changed materially from my two times working at a national level, but I think that –

Nicholas Timmins

Right. In that there were fewer of them –

Richard Gleave

Yes. It went from quite an important part in the way in which the Department operated to actually what is potentially a handful. I don't know now, but a very small number.

Dr Jane Leese

It also meant that sometimes it was not clear who was taking responsibility for an issue. I can remember, after I retired but I was still involved in some work, asking a former colleague in the Department how responsibilities were divided and being told, ''Well, we all know each other and we work together'. It did not seem to be clear who carried the can at the end of the day for controlling this particular disease.

Richard Gleave

Yes, there's always pluses and minuses, aren't there? My memory of my time in the Department in the 2000s was the crucial role that Brian played as a sort of glue with a set of NHS activities and with a set of public health activities, because ministers were very interested in some infection targets in the NHS that were high profile, and Brian and I were both involved in that, and that linkage was quite hard to establish, and that comes back to Stephen's point just now. The NHS's public health responsibility, and there may be some merit in reflecting back on the swine flu episode[37]. I was sitting in the Regional Health Authority at the time, and it took over the Regional Health Authority's business, and it was a complete reversal of '99% focus on the NHS and 1% on Public Health' to that period 99%. It literally took over the boardroom around it, and that's a rare activity –

Nicholas Timmins

This is 2008/9 you're talking about?

Richard Gleave

Yes, around that, and so, 'What are the public health responsibilities of the NHS?' was definitely something I spent quite a lot of time discussing, debating working on, trying to be clear around those.

[37] The ''Swine Flu'' pandemic was caused by the influenza virus H1N1. Cases began to appear in April 2009, with WHO declared a pandemic in June 2009. This was declared ended August 2010

Nicholas Timmins

Right. Right, yes. This has been good, because we've got into things we were going to get into anyway, which is how relationships with the Department [of Health] and Chief Medical Officers have changed over the years. I mean, one of the other changes with Public Health England was the movement of public health back into the local government again, or large chunks of it. Do people see that as a sensible move, a good move? I mean, to declare my own prejudice, you can see the argument both ways about where – the primary responsibility for a lot of public health, not necessarily just communicable disease control-

Nigel Lightfoot

But also, during that time, local authorities – their funding was reduced all the time.

Nicholas Timmins

Spectacularly.

Nigel Lightfoot

So local Environment Health Officers almost ceased to exist, whereas before the PHLS was working with them on water and food, they were all taken out, and the local authorities had very little resources to put into it.

Stephen Gillespie

They haven't got the expertise.

Nicholas Timmins

Can you repeat?

Stephen Gillespie

They haven't got the expertise.

Nicholas Timmins

No.

Stephen Gillespie

But, in a sense, it's almost the wrong question. Communicable disease control is such a complex issue. No one individual organisation can own it. So, the core has to be about organisation of the surveillance and response and allocating those tasks appropriately and connecting with people involved, and I think that was always the challenge, because everybody was very territorial. As Nigel has said, people like to work in silos. So, for example, in advance of swine flu, when started as Regional Microbiologist, one of the things we focussed on (it was 2005 and there's the big scare about avian flu), so my thought was, 'We need to be ready'. So where are we going to get that resource?

Obviously, Colindale were very well set up. They had all the flu facilities required, but there was none of that in the NHS, and where was that resource going to come from? So I actually just got the microbiologists together – the virologists together, to say, 'What are we going to do if there's an avian flu outbreak tomorrow?', and they all said, 'Well, we could organise a network to provide testing', and so we spent a couple of years doing that, and then when swine flu came along there was

an NHS network to use, and that was in a sense the challenge of, again, standing up the army and setting it down again.

Richard Gleave

So just a factual point: so, the drive of moving responsibilities to local governments in 2013 was underpinned by the public health grant, which was what? About £2 billion, £2.5 billion worth of money that had previously been in the NHS. I can't remember the precise percentage, but it's going to be like 2% of that related to disease control activities. So, the public health grant didn't put resource into local government to do disease control. There was environmental health, which is a different area but related which existed around it. Psychologically, I think there was a feel – Directors of Public Health or local government employees would lead around that, but this comes back to what were the NHS's responsibilities? Because what the NHS spent on the swine flu response was not included in the money moved to local government that was calculated on 2011-12 spending.

Nicholas Timmins

In terms of communicable disease?

Richard Gleave

In terms of communicable disease, and health protection generally.

Nicholas Timmins

We are jumping around a bit. Do Directors of Public Health these days, and local authorities, all have some training in epidemiology?

Lindsey Davies

Absolutely they do.

Nicholas Timmins

Pardon? [Can you repeat?]

Lindsey Davies

Yes, they certainly do. There's a rigorous training programme they have. They have to be trained in a whole range of things in order to be Public Health qualified. You have to be Public Health qualified in order to be a DPH. Legally, you don't, but actually that's the reality of it.

Nicholas Timmins

Unlike the old Medical Officers of Health, they're not all clinically qualified anymore, are they?

Lindsey Davies

No, they don't have to be. Some of them and some of them aren't.

[Crosstalk]

Lindsey Davies

They don't have to be a medical doctor to be a Director of Public Health, but some of them are. Can I just come back to the move into local authorities just to say a bit about that? Because my first meeting at the Faculty of Public Health, with my 'I'm about to be a president' hat on, was with the

then Minister for Public Health, and she came to me with the great news that public health was 'moving back home', as she put it –

Sally Sheard

Can you put a name in just for the record?

Lindsey Davies

My name?

Sally Sheard

No, the Minister of Public Health.

Professor Lindsey Davies

I'm just trying to think of it. That's why I didn't say it.

Sally Sheard

Oh, I'm sorry.

Lindsey Davies

Anne-No, I honestly can't remember. [38]

Sally Sheard

We'll fill it in later.

Nicholas Timmins

This is Andrew Lansley' day, isn't it?

Lindsey Davies

Yes. Andrew Lansley was the Secretary of State; he didn't come. [Anne Milton] came to say, 'This is good news. You're going to be'… And it was all part of the Lansley reforms because that's focused on the NHS. [39] The public health move was a consequence rather than a priority. Anyway, she said we are going to be moved back to the local authorities, and she expected us to be delighted, and we weren't at all. We were taken by surprise, but more important than that, we had found ways of working systems and were frankly fed up with being changed every two minutes, and either we were changed – either the organisation of public health was changed, or the systems it was working with were changed, and for any public health enterprise, whether it's communicable disease control or anything else, it's understanding the system and using the systems that's important.

The job of the public health person is to work in teams to understand the issue, help others understand the issue, and then coordinate the response, and as long as you understand the system, you can coordinate it. It doesn't always matter exactly what the system is, as long as you know where the

[38] Professor Davies confirms she is referring to Anne Frances Milton, Minister of State for Public Health, 2010-2012
[39] Andrew Lansley was Secretary of State for Health in 2010-2012, who proposed NHS reform. The Health and Social Care Act was passed in 2012

bits are, and you can persuade that system to work with you on a shared enterprise. That's what it's all about.

Moving public health into local authorities, there's always the nervousness that was there – local authorities weren't sure they wanted it at all and historically had tried to get rid of it in some ways, especially the Environmental Health Officers had been glad to see the back of the Medical Officers of Health, but moving it back with huge anxieties we had about the budget, because we could see we were well used to working with local authorities, and we knew what their budgetary issues were, and we weren't that keen on becoming part of that and trying to negotiate. I've gone at length about how we tried to negotiate the budgets, and the role of the DPH, and everything else.

It was a complicated process, and took a while, a long while to sort out, but we were not thrilled about going back, because with all the challenges of working in the NHS, at least if you're in the NHS, you've got a chance of persuading the NHS it's got public health responsibility. Whereas if you're not there, it's much harder to shout from the outside. So, there was that that was also part of it.

Richard Gleave

My experience was at that time I was in the NHS and Strategic Health Authority, and locally, people had come up with a lot of good ways of working between local government and the NHS, with Directors of Public Health as joint appointments. It wasn't universally good, and they were having to be imaginative and creative in order to get around various bits of statute in order to make it work operationally, but there wasn't a massive need in order to change the way that was working. There was probably just a way of culturally driving that as a bigger priority.

Nicholas Timmins

Well, of course, the reason it happened is all to do with horse trading between the Conservatives and- I mean, it was unfortunate. I mean, it was a 'With one bound, we are free. We just give public health back to local authorities. It solves a political problem, an ideological problem'.

So, in a sense, we've covered some of that, haven't we? Is there anything important to say about devolved administrations over the history of these three bodies, or…?

Brian Duerden

There's something very significant to say about the difference between England and Wales, in that when the PHLS was stood down and the HPA created, although the HPA had some wider than England, which is UK-wide responsibilities, principally its activities were in England.

Wales decided to retain the Public Health Service in Wales, and it took over the laboratories, and it kept the systems of the Welsh laboratories and Welsh Public Health very much as it had been, and it has continued to develop that so that, as I was hearing, I think, last week, almost all the laboratories, probably bar one significant one, in Wales are now part of Public Health Wales, and this was shown during the pandemic, when they used the network to establish their testing capability, building upon the expertise in the virology sections of Cardiff and at Swansea, to provide that service for Wales, and they said at the time they wanted to retain the system as it had been and develop it, and that's what they've done. So that was a very significant difference from what happened in England.

Stephen Gillespie

In Scotland, the situation is different. It's because the devolution issue is so highly contested, and driven, as it were, inevitably towards independence, and what happened previously was Scotland

worked very closely with the English PHLS, and many of the complex lab tests were all done in England. During the period I was in Scotland, a lot of time was spent setting up a Scottish version of what was already in existence, so that we no longer send things out of the borders. So devolved administrations is a touchy subject. I'm not even going to start to talk about Northern Ireland.

Lindsey Davies

I will.

Stephen Gillespie

Good. Good for you.

Lindsey Davies

As the Director of Pandemic Influenza Preparedness for the UK, I had to deal with all of the regions in England, and also the DAs, the devolved administrations, and that was, as you say, really quite entertaining, because they were well established by that time, 2006 to 2010, and the different organisations and laboratory systems and so on were different.

They had their clear representations, and they had different ministers and different attitudes as to how you might control communicable disease, what was sensible and feasible and what wasn't, and that was a particular challenge when swine flu actually came for everybody to negotiate, but for me, in preparing and planning, it didn't cause too many problems. Although they all had different attitudes and ministerial perspectives and different pressures, actually when you get the right people around the table to have a conversation about a shared issue, which would be, 'What would we do in a pandemic?', it was reasonably straightforward, once you all got to know each other. It's about the system. If you get the right people and you have your shared conversations, you agree the overall plan and you go back and deal with what you've got to do to make it work in your own local system on a shared basis.

Professor Stephen Gillespie

And, during the 2009 pandemic, there was a daily call with all the microbiology labs on the call reporting centrally, so it all worked, and that was including the Republic of Ireland.

Nicholas Timmins

Right. I think we'll have a coffee break shortly, but David, would you like to finish off this session?

David Heymann

Yes. With the devolved administrations, there was clearly closer contact under HPA than there was with PHE. HPA had a board member from each of the devolved administrations, and we rotated board meetings so that we had a board meeting in each of the devolved administrations, which permitted quite a bit exchange and understanding, and when there was a board meeting in one of the devolved administrations, there was always a field trip and an explanation of what they were doing. So, it was quite a different relationship with the devolved administrations with HPA than it was with PHE.

Nicholas Timmins

Right. We'll have a short coffee break, 10-15 minutes, and then we will carry on, and thank you very much so far.

[The meeting adjourned from 14.52 to 15.07]

Nicholas Timmins

Before we get onto the next section, I just wondered if those who are observers online, if anybody wanted to make any brief comments on what they've heard so far? So that's Allyson Pollock's hand up?

Allyson Pollock

I didn't hear that. Could you say that again, please?

Nicholas Timmins

I was saying that those who are online at the moment, before we move onto the next section, is there anything those who are online would like to say, reflecting on what we've heard so far?

Allyson Pollock

No, it's really interesting and I'm really grateful for the opportunity to hear people. I may have some questions at the end but thank you.

Nicholas Timmins

Okay, grand. So, the next bit is we're going to try and talk a bit about the elements of surveillance systems and the balance between clinical work and surveillance work. Is there someone who would like to start us on that?

Jane Leese

I would like to go back to the previous question. I know we're all now moving on, but we haven't covered the international dimension. Diana was saying that PHLS had huge expertise and was highly respected. It was fundamental in leading the new European collaborations in infectious disease, and –

Nicholas Timmins

Can I stop you there, only because I was going to come back to that –

Jane Leese

Okay, great.

Nicholas Timmins

As the next bit, if you see what I mean? That's really important that we're doing that shortly. But surveillance systems and development thereof over the years; the balance between that and the clinical work that needs to be done.

Nigel Lightfoot

Surveillance is key. It's why all this happened and that's the theme running through it all. The surveillance allows you to measure what's happening out there at the public level. And you can benefit the public by then working out what to do. It's now moved into, 'We'd like to know beforehand', before it happens. And those are the surveillance demands of policy people: we'd like to know before it happens that it's going to happen. And so it's key, surveillance is.

In the beginning, John will tell you all about it, he's been there for years, surveillance was so important, but it was used to write a paper rather than let everybody know that there was something important that needed to be done. And that is a change that you had to push the epidemiologists to do in the end, to get it out there in a timely fashion.

Nicholas Timmins

John then Diana.

John Watson

Surveillance obviously didn't begin with the PHLS. The one thing that come before were the Medical Officers of Health and notifications and all that kind of thing. And also, surveillance has continued to evolve and get enormously better, right up until today. But certainly, I think there was something of a sense that at the point when the likes of CDSC and the Epidemic Research Laboratory (ERL), were established, that they took what had largely been an approach which was the collation of passively collected data and said, 'How do we ensure that what we get is information that is representative of what is going on, that is comprehensive and enables us to take action, and including spotting problems when they arise, outbreaks of infectious diseases for example, and apply control?'

And when it came to that business of control, the surveillance was the starting block. But that control was then the application of a range of skills, which included the lab skills, the epidemiological skills and a variety of other skills: people who knew how to talk to populations, for example. And then the thing that the late Chris Bartlett was particularly good on, was that every episode that occurred in this field, particularly every outbreak, was an opportunity to learn; certainly, learn something new about what had happened and what needed to be done and how things could be better prevented. [40] And this whole activity fed the business of research questions: research questions about how to do surveillance better, but also how to prevent this infectious disease better. So, it was, I think, seeing surveillance as a broader activity that had at its heart the issue of providing information that led to action and better prevention. That really motored from the 1970s and 1980s onwards.

Nicholas Timmins

Right, Diana.

Diana Walford

Well, I think the surveillance function was one of the things that CDC Atlanta absolutely envied us for. We looked to them for an enormous amount of things and their expertise was spectacular in many respects. But they really felt the lack of having a network, of the laboratories but also a central way of collecting from the whole of the country surveillance data through GPs and so on. And I've spoken to the then Director of CDC, Jim Hughes. He was so envious and he said, 'The number of times we're missing epidemics in one State, which actually are going on to be multi-State epidemics, because we have no way of collating all this and no way of getting that information, and the States are holding it close to themselves'.

So, I think the surveillance function is absolutely paramount, and of course it is based on all the reporting that you can get from every type of microbiologist, from every type of laboratory and every type of director, of every type of public health person around. But it's making sure that we hang onto

[40] Dr Christopher Bartlett was the Director of the Communicable Disease Surveillance Centre, PHLS

that or improve that, is the key to pretty well everything you need to do in communicable disease prevention and control, it seems to me.

Stephen Gillespie

Yes, I agree. Absolutely, the surveillance function or PHLS was outstanding. The weekly CDSC report – if you're in the NHS, you looked at it every week to see what's happening. It was really very important. And that's on the plus side, and quite rightly, it was envied across the world. On the other side, from the NHS point of view, sometimes, you had to go to hospitals and say, 'In the last month, you've had 20 cases of *C. difficile* in your hospital'.[41] And they said, 'And so?' and I said, 'You shouldn't have any', and they were surprised.

I remember we held a London-wide conference. Brian was one of the lead speakers there, and we discussed it with all the microbiologists and public health people and the nursing staff in London, big conference. And we came up with the guidelines and Brian said to me, 'That's what we came up with in the 1990s', which was 15 years previously, if you remember that? The surveillance was outstanding, but the constant need to link it into the executive, to NHS to do something with the data was an ongoing challenge.

Sally Sheard

Allyson had a question, which was, 'Why did Chris B leave?' That was about three minutes ago.

Helen Piotrowski

And I think David Heymann also has a question.

Sally Sheard

Okay, Allyson, do you want to – or can you look at the chat, please, Helen, and just check what the question was from Allyson?

Allyson Pollock

Can you hear me?

Helen Piotrowski

Yes, we can.

Sally Sheard

Can anybody answer Allyson's question?

Allyson Pollock

Why did Chris Bartlett leave?

Diana Walford

He chose to.

[41] Clostridium difficile

Nicholas Timmins

No clear answer to that, Allyson.

Allyson Pollock

Okay.

Nicholas Timmins

David, did you have your hand up?

David Heymann

Yes, I'll just follow along with what was said about the surveillance. HPA, at that time, did have some of the most cutting-edge surveillance in the world.

In fact, two examples stand out, and this was because, as John said, the epidemiologists and the laboratory scientists were working together. One example is the syndromic surveillance, which is the automatic searching of NHS 24 and other databases such as emergency visits, to try to detect an increase in reports of certain syndromes. This system has been adapted by many other countries around the world, but they do not have access to the quantity of online digital data that does the NHS. This syndromic surveillance system was used, as you know, by Brian McCloskey who introduced it for the Olympics in 2012 in London, and then to other Olympics games – Brian still works with the Olympics Committee to help countries set up surveillance activities at various game sites around the world. [42]

The second example is the HAIRS Group, which brings together the agricultural, environmental and human health sectors once a month to discuss infectious disease risks at the animal/human/environmental interface identified from their global horizon scanning, and how they might apply to the UK. [43] Again, an activity that has been adapted by countries around the world. If the UK were to lose that skill, and I know it is the envy of CDC, it would be a great loss for the UK and for the world. I also know that there is right now a group working with the government to take surveillance into the next 30 years and they're envisioning what might be possible then, and they are assessing what might be possible in order to, as Nigel said, to detect as well as to monitor and respond.

Nicholas Timmins

Do you think there's a risk that could be lost?

David Heymann

I don't know - you'd have to ask people who are with UKHSA today what's happening.

Nicholas Timmins

Right.

[42] For further information please see McCloskey B, Endericks T, Catchpole M, et al. London 2012 Olympic and Paralympic Games: public health surveillance and epidemiology. Lancet. 2014;383(9934):2083-2089. doi:10.1016/S0140-6736(13)62342-9

[43] Human Animal Infections and Risk Surveillance (HAIRS) group was established in 2004

Nigel Lightfoot

The only problem with that epidemic intelligence unit information coming out, and I receive it, it's getting later and later it comes out. So, the latest report I have is from last December. Speed is so important with outputs from surveillance.

Nicholas Timmins

I was going to say, in a sense what has changed in surveillance, because clearly communication is far faster than it was in the early days of the PHLS because it was all mail and telephone calls. You can analyse data much quicker because of computing power. Have there been fundamental changes in, for want of a better word, clinical laboratory techniques?

Claas Kirchhelle

I mean, I can pop right in. I would just like to ask exactly the same question. So, over the past 30 years we've seen a complete revolution in the way microbiological tests are being performed. When the PHLS were set up, phage typing was big, and serological surveillance. In the 1990s, Pulsed Field Gel Electrophoresis (PFGE) came in from the CDC, and then we have, I think from swine flu, really onwards, PCR based testing and now this whole genome sequence-based testing started to come in.[44] Obviously, this has had massive implications on the volume of data you can generate and also how you can act on it. How far has this shaped surveillance systems over time in the various organisational manifestations of UK public health that we've been talking about?

Nigel Lightfoot

It means you get the answers you're looking for faster, because you then dive deeper into what is the causative agent, the causative effect. And if you have that early, it's easier to make a response and learn. So those molecular techniques and whole genome sequencing are really important.

Brian Duerden

I certainly echo that. But to take Nigel's other point about the time it takes to get some of the material out there into – well the area the operational people need. And going back to Stephen's comment about the weekly bulletin, right, when it was paper and then when it went out electronically. That was timely. It was of the week or of the couple of weeks before. So, it was actually what people needed. It was what they were seeing. It was also a unifying factor in that it was produced by CDSC, PHLS and then HPA. It went out to everybody who was interested in knowing public health people, every laboratory. And on the laboratory side it was particularly important because if you're in an NHS laboratory and you're being encouraged to report your stuff in, to send material off for extra typing by whatever means, then you were getting the information back not just on what you had, but you could see what was going on in the country.

Stephen Gillespie

It was part of a payback.

Brian Duerden

It was a payback. It encourages people to contribute to it. I mean, I remember one of the lines in my job description at DH [Department of Health]. It said, 'To ensure that NHS laboratories contributed

[44] polymerase chain reaction

to the public health function by reporting and sending material'. I didn't have the power to ensure. I couldn't sack anyone or anything like that. But that it was deemed so important, and it's needed if you're going to keep people on board, and it has to be timely, by whatever the new methods are, which can make it even more timely.

Stephen Gillespie

Yes, but it also needs to be relevant, because if you take the *C. difficile* example, *C. difficile* we had in hospitals all the time and then along came a much more virulent strain that spread more easily in hospitals and killed lots of people. And there was a lag time before that. So that's an issue about relevance as well. And although genome sequencing is wonderful, because of its expense it means it's only applied in certain areas and not in others and creates data which is complex to interpret unless it's properly packaged. So, it does beg the question: when this technology is introduced, it must be done in well organised way that is explicable to those who have to use the data, and that's not necessarily the case in the context of the interface between public health and the health service.

Nicholas Timmins

Right, but presumably the cost of genome sequencing is falling pretty fast?

Stephen Gillespie

Yes, but the thing is it now costs maybe somewhere between £50 and £100. But in the past it would cost maybe £5 to get a salmonella identified. So it has never been free [or cheap]. Timeliness is important.

John Watson

Just briefly to continue one strand of what Stephen was commenting on. The question had been about how new technologies play into shifting the structure of surveillance, and one aspect of the new technology, particularly accelerated by the pandemic, was the use of near patient tests and the ability of the information coming out of that. And that played an important role with respect to individual patient action. But a key future development in surveillance needs to be the harnessing of the information that comes of that, which was done to an extent in the Covid pandemic, in a way that then can make surveillance even more representative as well as timely.

Nigel Lightfoot

And now there is another element to surveillance, which is what are the public doing on the internet? What are the news reports from around the world? You can set up a system that analyses that and you can do it. You can actually choose which information you want to get. But that's the bit that gets you even closer. And when you get that close, if you haven't got the right laboratories that are able to confirm and say, 'Yes, that's probably true because we can do the surveillance', you need the laboratory system at the end of it to do it.

Nicholas Timmins

Right. Claas, does that broadly answer your question?

Claas Kirchhelle

Yes, thank you very much. I think just one last aspect, bringing it back to surge capacity again. I mean, clearly the proliferation of PCR testing capabilities in the UK from around about 2010, 2008 already onwards, means that very different laboratories can start performing testing to a degree. And

if we look back at the CDC memories of 2009, they frequently said that the PCR testing was a very important thing in terms of creating surge capacity across lots of different states, where you just rolled out a golden recipe for PCR testing and you had data coming back to CDC central. I wonder whether experiences were similar in the UK with genomics also creating unprecedented surge capacity for data creation outside of the standard public health system.

Stephen Gillespie

I can answer that. Certainly, as a Regional Microbiologist, that's exactly what I tried to set up in London because we couldn't provide surge capacity within the HPA but the NHS could, and that's what we did. We got our virology laboratories to take a single recipe, be ready to produce it. So, we were able to go from 10s of samples per day to 100s of samples a day when the swine flu pandemic came, because we had five laboratories who already could do it, they just needed the recipe from Colindale. And the quality assurance and the connection of public health was already in place. So that's how you can use modern technology because it's so transportable and reproducible. But you have to have that connection [collaborative network] already established.

Brian Duerden

But there's one aspect that's gone beyond that and could be on a downside. At that time, you had open systems that you could adapt very quickly to something new. So many places now are using commercially produced closed systems that don't need all the clean rooms and all the things to that extent, but that are less adaptable to something new coming along and depend upon the companies who provide the kit doing that in a timely manner, and that doesn't always happen.

Stephen Gillespie

That's one area where university laboratories can be helpful, because they do have the open systems that are much more flexible.

Nicholas Timmins

Diana, and then David.

Diana Walford

Well, if it's fair to mention Covid in this company, but essentially the surge capacity was there in the university labs, in some of the PHLS labs, to do PCR testing for Covid early on, in bulk and of course also in the Crick Institute. And it was not taken up by government, and that for me was – no, I won't say it was a crime of crimes - I have just said it, but that's not going in the record! I could not understand it. I don't think any of us who knew anything about anything could understand why this was not being taken, maybe in addition to other entities who might be able to do it. But why was not the capacity to do PCR testing during Covid taken up by the government? It's a mystery.

Nicholas Timmins

Does anybody know why?

Nigel Lightfoot

I don't know why. But I can tell you that Amazon wanted to test all their staff - and the enormous staff, all over Europe, so they built a laboratory in Manchester. They set it up in Manchester, and they were up to 12,000 tests a day, they were moving samples from Germany and all over Europe into that lab for testing because they wanted to be sure of what was happening within their business

because their business was pushing stuff out. So, they just did it. It means it is scalable, and anybody could do it, and the NHS could do it.

Nicholas Timmins

David. I'll come to you in a second, John.

David Heymann

During the swine flu pandemic, I had a call from a colleague in CDC asking if there were capacity in HPA to do testing because they couldn't continue with all their testing. HPA then did testing for CDC during the swine flu pandemic, which is testimony to the efficiency of activities within the UK where laboratory capacity is very different from the US where there are large numbers of laboratories in the US.

Nicholas Timmins

And, David, do you have a sense of why university, Crick Institute capacity was not used in Covid?

David Heymann

No, I wondered the same thing. In fact, I wondered why a lot of the capabilities that were within PHE and within the government weren't being used. But I have no part of the decision-making process.

Stephen Gillespie

It was used in Scotland.

Richard Gleave

So, I wasn't part of the decision making. I'm sure witness statements to public inquiry will start to unpick that. There was one technology related issue I was just going to raise, which is the importance of the containment level in an early stage of a new and emerging infection. [45] So Covid, the virus, was designated a containment level 3 until, what was it, early April? So that limits its spread and adoption technology, and it's still formally designated a 2+ rather than a 2 around that.[46] So that's another variable that needs to be put in about the surge capacity that we've got, that might be important in other situations. I don't know because I'm the non-scientist in the room.

Nigel Lightfoot

My point was if Amazon can do it, then anybody can.

Nicholas Timmins

Stephen, the John, and then Helen.

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[45] From 19th March 2020, Covid-19 was no longer considered a High Consequence Infectious Disease (https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid#definition-of-hcid)

[46] For further clarification on containment levels for Covid-19, please see PHE's Guidance COVID-19: safe handling and processing for samples in laboratories. Updated 29 March 2021 online COVID-19: safe handling and processing for samples in laboratories - GOV.UK (www.gov.uk); Containment Levels for biological substances under Health and Safety Executive's Control of Substances Hazardous to Health regulations. Ranges from CL1 to CL4

Stephen Gillespie

It was a simple point to say that the university laboratories were used in Scotland, contrary to what happened in England, because we'd set it up that way.

Nicholas Timmins

Yeah, and effectively used?

Stephen Gillespie

Yes, I think so. There was also a Lighthouse Lab also in Glasgow as well, and the universities were keen to set up their own systems. The key thing before we started that testing was that they had to be connected to the public health data systems.

Brian Duerden

And Wales did.

Stephen Gillespie

I would imagine they've done exactly the same.

Nicholas Timmins

John and then Helen.

John Watson

I just wanted to make almost a point of the other side of a hill, which is I don't disagree for a moment with the notion that in a crisis with something that can be tested for, that you need to have the ability to be able to surge that testing and build it up. And what you don't want are inappropriate blocks to that. That's not the same thing as saying that the right response is necessarily to test everything and anything that moves. And there needs to be a clear understanding of what your public health purpose is and, indeed, how you can restrict, ultimately, that massive amount of testing that is potentially possible, in order to be effective and cost effective in delivering what you want to do.

Stephen Gillespie

That's all about laying down the policy in advance.

Nicholas Timmins

A lot of heads were nodding at that.

Sally Sheard

Just a comment, and I will fill in the detail as a footnote in the transcript. But I sat on the Liverpool command structure for Covid for the city. I was a member of the university's team as well. I recall that we had discussions quite early on about where the priorities were for opening up our testing. And I think in our early phase, there was a perception that our local hospitals would have first call. But I don't know. I don't recall, I mean, everything seemed to happen so quickly, to what extent

those were decisions that we made locally, regionally, or to what extent it was PHE instructing is to reserve testing capacity for other purposes.[47]

Nigel Lightfoot

I think it was it was higher up than PHE, the decisions. It was a political decision.

Lindsey Davies

It was a national policy that was developed as part of the response. I was very peripherally engaged at a very lower level, but that is how it worked with prioritisation.

Richard Gleave

So, we need to draw distinction between two things here, which we could easily get blurred. One is which laboratories do the testing, and then what are the principles upon which the access to having a test and where people and how they get access to be swabbed? And those are two separate sets of decisions. I think the one we were focusing on before is the one about why were more labs accessed sooner? I guess at the heart of that is the decisions that were made in the testing plan, which came out 1st of April, something like that. The five pillar plan around that, which DHSC published. [48] And that's the bit that I wasn't involved in, and I don't know the details of.

Lindsey Davies

I was involved in the work from 16th of April onwards, trying to make that plan work. And, yes, it was not straightforward at any point.

Nigel Lightfoot

There was a massive shortage of the materials that you'd use in the testing process, even down to the type of fluids that were used in extracting the swabs for the PCR. There was a shortage of swabs, a massive shortage of everything, which took time to build up.

Richard Gleave

I think that's virtually exactly the same timing as ACDP and Health and Safety Executive moved it from CL3 to CL2+, almost exactly the same day, if I remember correctly around that. [49]

Nigel Lightfoot

Yeah, it was pretty quick.

Nicholas Timmins

Can I just, we've talked about this a little bit, shift the focus around international/collaboration/learning?

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[47] Paul Atkinson & Sally Sheard (2022) Designing effective central-local cooperation: lessons from Liverpool's Covid-19 response, *Policy Design and Practice*, 5:3, 346-361, DOI: 10.1080/25741292.2022.2074648.

[48] For further information on the five pillar plan see DHSC, Press Release: https://www.gov.uk/government/news/health-secretary-sets-out-plan-to-carry-out-100000-coronavirus-tests-a-day. 2nd April 2020

[49] Advisory Committee on Dangerous Pathogens (ACDP)

Sally Sheard

Claas has got two questions on there before we move on.

Nicholas Timmins

(Reading online chat message), 'Did HPA trade capacity to deal with the new data streams ahead of 2009? Was there a UK wide way of integrating data after 2009?'

Nigel Lightfoot

That's the pandemic year.

Nicholas Timmins

Yes, and 'How did NHS lack capacity develop during the time between 2000 and 2020?'

Nigel Lightfoot

Well, the flu plan doesn't require you to test everybody, for a start. It was a clinical diagnosis with an opinion based on that from the experts in the clinical field, so it didn't require massive testing.

Lindsey Davies

It never occurred to us quite honestly, and the technology was very different then anyway. It did not occur to us other than the initial containment phase.

Nigel Lightfoot

I mean, we studied in detail. We said we'd look at the first few hundred cases, and in the end, we looked at the first 5,000 cases to get information about it and what was happening, but that was the bit of the surveillance that was done. [50]

Nicholas Timmins

Sorry, Helen, I haven't come to you. You were –

Helen Piotrowski

No, it was just a small point, and it reflects what you said about resources, just that, I wondered if there was more of a standardisation problem that they didn't want to access university labs early because everybody has slightly different resources – slightly different ways of doing things?[51]

Stephen Gillespie

That's the nice thing about molecular methods is, once you've designed your PCR, you can adapt it to any platform and make it reproducible, so that is a technical problem, but quite a short-lived technical problem.

[50] "The First Few Hundred (FF100)" Project Epidemiological Protocols for Comprehensive Assessment of Early Swine Influenza Cases in the United Kingdom. Health Protection Agency. (28 May 2009)

[51] Here, Piotrowski had meant to ask if university laboratories were not classed by government as the same standard as hospital or PHE diagnostic facilities for patient swab tests.

Nicholas Timmins

Okay, we talked a bit about international learning both ways, so to speak. International collaboration – what did various iterations of these bodies learn from elsewhere? What did they deliver for elsewhere? So, I suppose that includes America, Europe –

Richard Gleave

Can I just go back on Claas' final point – NHS microbiology?

Nicholas Timmins

Yes, sure.

Richard Gleave

I can't answer the question about capacity, but the dominant issue that I was involved in in NHS pathology were the Carter reports, so that was setting a whole tone around what was happening about NHS pathology, including microbiology. [52] With his two reports in, what, the second half of 2005 to 2010 sort of era, wasn't it – around that – and that was about a model that I don't think has really ever been adopted in this country, which was about very big, large cold centres, and small hot centres in hospital. Microbiology was always being seen as a cold centre.

I was involved in it at a hospital level and an SHA level around that, and there was a lot of debate going on in NHS pathology around that. That may have drawn their eyes completely away from the Public Health component, I don't know. It wasn't a question I ever asked at the time.

Nicholas Timmins

No, if my memory serves me right, quite a lot of that was about involving the private sector in these pathology deals.

Stephen Gillespie

Yes and no.

Richard Gleave

Potentially, yes.

Nicholas Timmins

As I say, not a lot of it actually happened, but there was quite a lot –

Richard Gleave

The most important thing was about looking at a level above a hospital, so it was about pathology networks, and that bit sort of does exist, and you can go onto the websites and see what these networks are. The scope for private providers was important in that, and HPA bid – in collaboration with people – to get access into that pot of money, and that was part of the framing of how do you continue with a regional laboratory when it isn't financially viable in the financial state that the service was in at that time.

[52] Lord Carter of Coles led two independent reports into pathology services in 2006 and 2008

Stephen Gillespie

But in answer to Allyson's question during the period we were discussing, the capacity of NHS laboratories to do molecular testing increased year-on-year, so that by the end of the period almost all of the laboratories would have a strong capacity to deal with molecular testing.

Nicholas Timmins

And the end of the period being?

Stephen Gillespie

2020, and I think that is also supported by changes in the training system for microbiologists, virologists, and infectious disease doctors, because that became a unifying training programme, so instead of the, 'Those are the virologists over there that don't do any bacteriology, and these are the microbiologists here who don't do any virology', those people actually had rotated around each other's laboratories, so when the crisis came, they were able to work in each other's laboratory and use the equipment. And that did unify microbiology in a positive way.

Sally Sheard

Can we just briefly see if anyone can answer the question, 'where did the idea of Lighthouse Labs come from?'[53]

Richard Gleave

So, there was a team in the Department of Health that was working on testing from sometime in March onwards. I don't know for certain that it comes from that, but that team then became NHS Test and Trace into that function.

Sally Sheard

Thanks, Richard.

Stephen Gillespie

It certainly seemed to come out of nowhere because in my experience in Scotland working with the chief CSO, I wrote a – with colleagues – a sequencing plan, and a diagnostics plan, and then out of the blue came Lighthouse.[54] That wasn't originally a part of the plan.

Brian Duerden

The setting up of those laboratories was initially in the hands of people with no scientific background. It was an accountancy firm that was commissioned to establish them, and they had to rush around and find our colleagues who could advise them.

Stephen Gillespie

And very few of them were actually clinical microbiologists who had ever run a laboratory.

[53] 'A Lighthouse laboratory is a high throughput facility that is dedicated to COVID-19 testing for NHS Test and Trace' NHS Test and Trace: how we test your samples - GOV.UK (www.gov.uk).
[54] The Chief Scientific Officer was Professor David Crossman

Nigel Lightfoot

I remember speaking to virologists in the laboratories that I used to work with at the beginning of Covid just for a conversation, and they said, 'We're really annoyed we're not being involved in the discussions about scaling up the tests. And they were a very disgruntled group of people – the virologists who come from the PHLS.

John Watson

Sorry. If this is on the same topic, you go. I'm moving onto the international one.

Lindsey Davies

It is just briefly on the same topic because, as I say, I was briefly and tangentially involved in the Covid thing, and it seemed to me that it took on a life of its own. For me coming in from the outside and into a testing – some of the work on testing – it was very difficult to work out how the people in the testing team, and well, the whole Covid response team, who were trying to get organised. They had a boss and they'd got quite a lot of people on there, but they didn't really relate terribly well or have any of the sort of concepts I would have hoped for of how to engage , or externally, or that they should be really engaging with either the existing labs or with, as I say, the wider world, and certainly with the DPHs, and [occupational health] and all of those people that they kind of knew they existed, but they didn't actually understand enough about them.

And there was a sort of dissonance there which came from just a lack of knowledge and a lack of time or inclination to find out. That's how it seemed – that they weren't as engaged as they should be with those who were normally doing it because they were rushing off doing their thing very energetically, and doing their absolute best, and working their socks off to build a new response, but not using the existing system and resources as well as they could.

Nicholas Timmins

We'll, we're not here to do the Covid inquiry, plenty of sources for that. Plenty of strange things that went on. I mean, the failure to use the rest of the public health to do Test and Trace – the trace bit of it – was just gobsmacking. I mean, as we've pointed out, they're all trained in epidemiology. They know what they're doing, and they had loads of people on furlough to make the phone calls. And so you wouldn't have had people with Aberdeen accents calling people in Cornwall, and vice versa; you'd have had local people talking to local people. [Inaudible] – sorry, I could go on –

Jane Leese

You can set up the most wonderful structures like we're talking about, but, if you don't have the right people and they are not used effectively, then- disaster.

Nicholas Timmins

People from Birmingham Airport, the National Exhibition Centre, on furlough, all of whom had customer-facing skills, all of whom would have come and done it for nothing – anyway, let's –

Richard Gleave

I had a question for Claas because I've read with great interest the Gordon Dougan commentary paper that you did where you pointed out that what led Germany to really expand its laboratory testing capacity quickly was the change in the remuneration from government, and I just wonder – because that's a completely different model to anything we're used to – we've been commenting really about

the problems of competition.[55] Ironically, in that competitive environment – and I have heard the same from colleagues in Germany – that simply by changing the reimbursement mechanism, you accessed a whole host of capacity.

I wondered if that's a variable that we just don't think about in this country because of the nature of our model, and I'm not sure it would work.

Claas Kirchhelle

I mean, I'm not so sure – Sally, you need to stop me if this is unhelpful in the responses – I mean, we did that article after reading Matt Hancock's comments on the Robert Koch model for the restructuring of PHE going forward, and as a German, that struck me as a bizarre model because clearly the UK has a very, very different historical structure of doing public health than Germany has.

I think it comes back to my question that I asked earlier about the revolution of molecular testing and scalability. So, it's escaping in many ways the confines of public health for traditional microbiology services and becoming a commercial service that can be used anywhere, and where samples can be shipped across the Atlantic, in an emergency, to be tested. I think Germany recognised that, and that system was already in place with lots of commercial testing also in the veterinary sector being in existence, and that could be accessed by the reimbursement.

In the UK, the PHLS more or less destroyed commercial testing when it was established during the Second World War, and after the Second World War. In fact, if you read the Government reports from that time, the main opposition was private commercial laboratories saying, 'You are destroying our business by creating this free testing service offered by the PHLS'. And so the UK had a completely different evolution of public health microbiology than many areas in continental Europe.

So, we, at that time – Gordon and I – thought it was fairly bizarre to propose a return – or to propose transformation of the UK public health system into something it had never been and had never been designed to be.

Richard Gleave

Well, it neatly led you back to your international point. I hope you've noticed that. I'll claim some credit for it.

John Watson

I was going to pick up on the international point, but I just couldn't let a comment about test and trace go past without at least some kind of repost to it, which is that people get very angry about the whole business – about the way – the mechanisms with which test and trace was done, and how it could have been done more efficiently – but what they don't ask is, was test and trace the right thing to do? Could it ever really do what it was intended to do? There's a much higher level of thinking about test and trace which is needed, which goes beyond just how it was delivered.

Nicholas Timmins

Just elaborate on that.

[55] Kirchhelle C, Dougan G. Make it new: reformism and British public health. Lancet Microbe. 2020 Oct;1(6). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7470782/

John Watson

One of the issues about test and trace in the circumstances of the infection that we had, and the amount of it that was about, and the way it was spread, and the fact of asymptomatic infection etc etc is – and the drop-off you get of people you can pick up at each layer of the process – it was never going to work, or it was never going to work more than a little bit, but it was going to cost a fantastic amount of money and put huge numbers of people to enormous inconvenience, and often unnecessary inconvenience.

And I think there really needs to be a thought about whether it the right model, or were the right parts of that model applied, and could the aims have been achieved in a more efficient and effective way?

Stephen Gillespie

In other words, the strategic thinking behind it was never put in place first.

John Watson

I think that's right.

Stephen Gillespie

Which then begs the question – as we're supposed to be looking at the governance or the process of public health control – is that something that PHLS, HPA and PHE did well? Did they have that strategic overview that's, 'So how would we have coped with this?' And, 'This is what we would test. This is when we would stop testing. This is what we would report. This is what we would not report. This is when we would intervene. This is when we would not intervene'. And Covid is a very good case in point where had there been a very, very effective testing right at the start, you might have kept it out for a while. Maybe, maybe not – probably not. Too spready, can't do it – so there was no strategic thought about how you deploy the testing, which samples you take, and which you don't take.

Jane Leese

Or was there some strategic thinking, but it was overruled?

Stephen Gillespie

Well, I think that's for the Covid inquiry to work out, but our question is, is that something that PHE, HPA and PHLS did well to set out those testing criteria in a transparent way that everybody could understand them? As an NHS doctor at the time, I would say, 'Not terribly well', because we often didn't understand, as consultants and the NHS, what the strategy was.

Nicholas Timmins

Diana, and then I'll come to you, David.

Diana Walford

Well, I can't speak of course at all for the Covid, but I think Lindsey will know when it came to pandemic flu planning, the PHLS pandemic flu plan – at least while I was there – contained very clear guidance after the first flurry of testing, and trying to establish that – I mean, flu was then everywhere, so it was completely pointless testing, and you just went on clinical symptomatology and that was, I'm sure, as good, and a great deal less expensive than trying to test and trace everybody.

[Crosstalk]

Lindsey Davies

'The First Few Hundred' like you said, and that was very, very clear, and it was really helpful.

Nigel Lightfoot

And that really relates to how would we do it next time if we were in charge. And I think you mentioned something really important, John, which is what are the public health goals? And that phrase – I mean, you said the same – 'What are the public health goals?' Not, 'How can we test something?' 'What will the public think?' or whatever.

Jane Leese

I agree that should always be the key question.

Nicholas Timmins

David.

David Heymann

I believe that what the public wants is an agency that they trust, and they will then follow its recommendations. But I think that the flaw in much of the thinking during the pandemic was the concept that the pandemic could be controlled centrally, when trust is local, especially for activities such as contact tracing. I believe there was great trust in the people who work locally in PHE and that the public wanted to work with familiar faces that they trusted and would not, for example, provide their intimate details to someone who they did not know or trust. As I remember, based on an Ipsos mori survey when I was with PHE, it was a trusted agency. [56]

Brian Duerden

Could I just add a little to the testing of the pandemic flu pattern and the strategy for testing. There was an additional part of it that we thought should be done, and listed, for 2009, which was, as well as the original diagnostic testing – whether it was 1,000 or 5,000, however many – there should have been a research programme in place that carried on from there on a selected set of patients of differing severity that collected data on the virus that they had, their antibody response, the rest of their immune response, and hopefully doing some genetic work as well – things that became very important in Covid as well.

Sadly, that wasn't implemented in 2009, although the protocols were there to be done. We were working with Lindsey. That was my subgroup of the plans, but things just overtook it. But carrying on from the fact that clinical management – as it gets going, and it's everywhere – it doesn't need laboratory testing. Understanding the disease process, and why some people get particularly ill with it, and why others can throw it off needs a research programme – an immediate research programme – some of which actually did come through in Covid as they started to understand the importance of the immune response in causing severe disease.

[56] Ipsos MORI is a market research company who conducted annual stakeholder reviews for PHE between 2013/2014 and 2018/2019. For further information see PHE Stakeholder review 2018-2019. Online PHE stakeholder research: 2018 to 2019 - GOV.UK (www.gov.uk)

Richard Gleave

I had a point about that overarching question of the strategic overview, which was, I think, the concept of surveillance in a public health infectious disease sense is really poorly understood in wider government, and I think in the wider NHS. So, I recall a particular meeting with David and Paul Cosford as part of a series of meetings, and we walked out of that meeting with some very senior clinical leaders in the country, and the first thing we said was, 'They do not understand surveillance at all'. [57]

And we were trying to explain what the importance of surveillance was in that particular situation in terms of the rationale behind Harlow, but there were other contexts in which we did it, and I think I definitely felt that in discussions with leadership in the NHS – because if you're a hospital doctor involved in a clinical specialty and you're a super specialist because you've probably got to the top of your tree in that – you really don't understand how important those things that we've just been discussing for the last hour are.

I think Covid has probably helped with that, but I think the memory loss becomes very, very fast. I asked some colleagues about, 'What was the memory impact following swine flu?' They said, 'We thought three years. We doubt it was even three months'. That's just anecdotal, but –

John Watson

Just quickly to actually pick up on a point that Diana made – was that, when I first started in late '80s, the big thing with respect to surveillance and control was the CDC (Centers for Disease Control, USA). And to get the opportunity to go to CDC, and feel and see what they did, was the terrific thing. But by the early '90s the focus started moving to our European partners, and there was this big build-up of collaboration across Europe – the development of ECDC – and we went in in various areas of surveillance and control and in part to tell our European colleagues how to do it, and what we quickly learned was actually they had some really, really helpful lessons to us.

And, for example, our approach to tuberculosis and its surveillance completely changed because of what we've learned from our European colleagues, and so that's the sort of transformation I saw with things going in both directions in terms of learning how to do it better.

Nicholas Timmins

And, Jane, you started talking –

Jane Leese

Yes, well, I was going to say much the same thing that the late 1990s, a huge amount of effort went into how we would collaborate with our European colleagues on controlling infectious diseases and both the government and PHLS were involved in that, building up networks, both generally and for individual diseases, and agreeing some sort of commonality in how we should respond to infectious diseases. PHLS did very well in securing European funding for some of these networks, and were a lead partner for several.

Nigel Lightfoot

And in addition to ECDC, as you say, there was the Global Health Security Initiative. We had the flu programme in that, and we shared everything with the G7 countries and Mexico. And when it came to 2009 flu, at the very beginning the question was, 'What was happening in other countries?'

[57]Paul Cosford was the Medical Director and Director for Health Protection at Public Health England, 2013-2019

And we used to phone them in the morning and put it into a COBRA meeting later that day. And we were asked questions –

Lindsey Davies

Because we had the links built on –

Nigel Lightfoot

We'd got the links, and we were asked, 'What was happening in Mexico?' We reported it. I think I was told to send two or three people over to Mexico that day to go and actually find out from Mexico how they were dealing with it. What did it look like for them? Feed it back into our system. So international cooperation at that time was really good. I don't know about Covid because I wasn't there.

Nicholas Timmins

Is that European cooperation put a risk by Brexit at all? or is it –

Jane Leese

Is it – what?

Nicholas Timmins

Put at risk by Brexit at all?

Jane Leese

Very much so. I don't know what happens. Presumably we're now merely observers on these groups rather than active participants.

Professor Nigel Lightfoot

I think Mike Catchpole is still there, the Director of Science.

John Watson

Mike Catchpole is a Swedish citizen. And he is not a representative in any respect of a British organisation. The immediate direct consequence of Brexit was that we were no longer substantive members of any of these groups. And there were various arrangements, and those may have evolved that have allowed a certain amount of being able to observe, but no, the status of the UK in those groups changed, and we were no longer an organisation with a vote at the table.

Richard Gleave

But there are a network of contacts that exist underneath that. That is not the same thing. So, I'm not pretending that's it's not, but –

Nicholas Timmins

I was about to say, do votes matter, or is it actually a matter of contacts?

Nigel Lightfoot

Most things depend on human relationships.

Jane Leese

Well, votes at the table really do matter otherwise you have no say, you are just an observer. We are not used to being observers. We want to be able to influence the decisions.

Brian Duerden

If you're not at the table to set the strategy, what are you going to focus on?

Jane Leese

An important other factor is that as EU documents are first written in English, as English speakers and writers we are able to make sure that any text was clear and unambiguous before being translated into other EU languages. Well, that's what used to happen.

Nicholas Timmins

David.

David Heymann

To follow on what has been said, PHE did write many of the documents for the ECDC as you just heard, and there was always someone seconded to the ECDC from the UK. Angus Nichol earlier on, and then Mike Catchpole, and both the UK and ECDC benefited tremendously. I was at a recent meeting at the ECDC and there was regret that the UK is no longer actively participating in ECDC activities because of political decisions being made by the Commission and lagging negotiations by the UK.

Nicholas Timmins

Diana.

Diana Walford

Well, I think also there was a time in which the PHLS and all conglomerates of UK relevant experts were getting all the European grants for research for this type of work. I mean, we really cornered the market in leading those research grants. And of course, that's not possible at all, even if anyone can collaborate now with other researchers in Europe, but we can't obviously be the principal investigators, and we can't actually lead these big multinational groups, and it made a huge amount of money actually, as well.

Nicholas Timmins

Right, can I just pick up a question that Claas has asked which is – I'm not quite sure how you answer this – but was PHLS more visible at the local level than PHE? Does anyone have views on that?

Stephen Gillespie

It depends how you define 'visible'. So as a clinical microbiologist working at the Royal Victoria Hospital in Belfast in training, I knew all about the PHLS although I was in a separate environment because we had the CDSC report every week, and we studied it, and we knew about it. We sent things off to Colindale, we got results back, so it was very visible to us even though it might not ought to have been. So, it depends on what you mean by visible.

Lindsey Davies

I think from the DPH point of view – and the regional point of view – I'd say it didn't make much difference. As long as they were there as a trusted body, which they were, then they were equally visible just in a different guise really. I think the loss of that weekly report was a real loss, and that reduced visibility, I think.

Stephen Gillespie

The capacity to call people up in Colindale and say, 'What do we do about this?' It's just personal connections.

Nigel Lightfoot

Working as a PHLS Director, you're connected to everybody, and you work together. It was when you introduced the internal market it produced the tensions inside, and then the relationships suffered.

Richard Gleave

Certainly, the local landscape became much more diverse in 2013. So you've got NHS, you've got providers and commissioners, you've got the CCGs, and what their role was. It was a complicated landscape that came out of the Lansley reforms, and navigating that –

Nicholas Timmins

And a different form of relationship with local government.

Richard Gleave

Exactly, yes, and navigating that became a key focus for the centres and the regions around that, and that was an integrated health protection, health improvement, health care, public health offer, so those three domains of public health around that.

I think one would often enable the other to get in the door, so you might start a conversation about one, if you're particularly focused around the health protection components, and then it would go into the others. With other stakeholders it would be the reverse around that, but they worked very hard on ensuring that they worked closely as a team rather than – within the region it was very siloed around that – and when you see those surveys that David was mentioning, you see that coming back from both local NHS and local government. They appreciated that integrated offer.

Brian Duerden

There is one aspect of profile and visibility not just to the professions but to the public in general, as an NDPB, the PHLS was quite visible because the media could come to us directly and we would talk about infectious diseases, what was going on. There was meningitis, MMR, all of these things, but it was a professional view, and we were seen as independent.

Nicholas Timmins

Yeah, very much so. I mean, I remember talking to Spence Galbraith quite a lot.[58] He was always incredibly helpful.

[58] Nicol Spence Galbraith founding Director of Communicable Disease Surveillance Centre, PHLS

Brian Duerden

That clearly changed. I was there looking at this from the outside when it became PHE, which was obviously an executive arm of government. They had nothing like the same ability to be visible in that capacity than we'd had.

Nigel Lightfoot

It's true. Being a government agency, now, to try and look for things that you want to know – as a user of various services – it's very difficult to get through the webpages that the UK Government, Department of Health, put up. Before you could find everything.

Richard Gleave

I think he did some sort of quantitative analysis of big front page news stories, then PHE would have had more than the HPA. They would've been about health improvement issues rather than health protection issues, but the public profile was high because of those – e-cigarettes, alcohol – those sorts of issues. Now, the question that we had earlier on is, did that create a spinoff benefit into this area? I'm not sure it did in the public sense, but I think it might well have done in terms of engagement with local – so my background is in hospitals. If I speak to hospital managers around that, PHE did have a very clear profile, but it was one that started off around the work around supporting the 'Five-Year Forward Plan', and the 'NHS Plan'.

Nicholas Timmins

Right, right, and if you – again, we're not going to go into quite – we talked earlier about whether there's a risk of – or there was a risk of – loss of focus in health protection mixing the two up together. I mean, how do you end up in a position where you have a PPE stockpile that's a couple of years out of date? and quite a lot of it is not usable. Is that structure, or is it the fact that the money was just cut and cut and cut and someone said, 'Oh, we're not going to renew it?'

Jane Leese

Well, I've not been part of it, but my take on it was that the lessons from the last exercise of pandemic plans were not implemented.

Stephen Gillespie

It's also a communication thing.

Jane Leese

Whether that was communication or a lack of funds –

Nicholas Timmins

From what you're saying, that's not the first time that's happened – because some of the things from the 2009 plan, like surge capacity and you were talking about it. Operation Cygnus happened-.[59]

Jane Leese

They went to the trouble of having exercises to test plans but didn't take it that step further.

[59] Exercise Cygnus took place in 2016, using a scenario of pandemic influenza.

Diana Walford

But isn't this the story of communicable diseases and their epidemic potential that once the epidemic is over everybody's breathing a great big sigh of relief and moving on, and nobody really wants to revisit the ghastliness, and they certainly don't want to incur further expense on protecting against something that they think will never happen again. Like the Surgeon General in the United States, 'End of infectious diseases'. And that's what people would like to think every time one gets over an epidemic or a major outbreak.

Nigel Lightfoot

Following 9/11 we built up enormous stockpiles of everything at the Department of Health, and they were massive – strategically located around the country – vaccines, antibiotics, to treat large numbers of the population – everything. There was a system in place, and I think because of the stringency on funding, Osborne, and removing money from the NHS etc, they went down and down and down such that there was very little left when Covid came along.

Stephen Gillespie

So, Diana's point is very important because the question then for this group is to what extent did the three organisations keep communicable disease in the public mind, so that there was political strength to pay for the protection that you may not use today? It's like living at the side of a volcano. It doesn't go off until it does, and are you prepared to evacuate? And how are your systems going to be then?

Nicholas Timmins

Sorry, Diana, Helen, and then John.

Diana Walford

Well, just so you know, of course an awful lot comes down to funding, and we had immense trouble in the PHLS trying to convince government that actually it was a cost-effective thing to do to prevent infections and to tackle them early. And we were charged – and I think we worked at one stage with the London School of Hygiene and Tropical Medicine – to try and do a cost benefit analysis. Of course, extraordinarily difficult to do when you think about everything, and I don't think we ever satisfactorily did it, but some figures were produced which showed you saved a massive amount of money if you did these things well and in a timely fashion.

But that message, I think, has never got through to central government. It doesn't surprise me, but it hasn't got through. I don't know, Brian, whether more was done, but we never really cracked the – really, what is the cost effectiveness of what you're providing?

Brian Duerden

No, so much of it is reactive rather than proactive and forward looking. You react to what's happening now, not looking to the future which is difficult with a possible range of activities.

Nicholas Timmins

Yeah, yeah, and it's interesting whether you stockpile or not, isn't it? I was talking to the commercial director who did all the PPE purchasing for Covid. He said, 'The answer is not how to stockpile. The answer is just to run your whole supply chain a bit fatter, so you've got six or eight-months' supply of PPE floating around the system. And it's used in order by date, so you never have a stockpile, you just' – the trouble is you can make a decision to run it fatter. Then you stop someone

saying, 'Oh well, money's tight this year. Let's make it six months, and five months, and four months', and you're back to square one.

Jane Leese

The whole way the NHS procures has changed over the years, has made it more difficult to develop an overarching stockpile.

Nigel Lightfoot

And it happens with pharmaceutical products now. You get runs on them, and you are short of supply. What happened was people used to quote to us what Nissan did with their big factory of making cars. They do everything 'just in time', and so 'just in time' is beautiful for corporate savings, but it's useless for planning for infectious diseases.

Nicholas Timmins

Yes, Helen, you were –

Helen Piotrowski

I was going to say a positive lesson learned because I think you also identified in 2009 about the research gap. If you think about what then happened with the development of ISARIC, and developing a network of hospitals that can feed in.[60] The HPRUs, which we're part of… So, there was a big commitment towards planning for having that research aspect. As far as I'm aware.

Sally Sheard

I would say that ISARIC came very, very close to being closed down before Covid, and that would have been a disaster.

Stephen Gillespie

There were so many research projects which were sitting there ready for a pandemic. Because I sat on the prioritisation committee of what should be allowed to go ahead – and it was quite clear that people thought about this, and there were things that were ready to go, and so when the pandemic hit, people started their research. So, we got our – the UK got its answers out earlier than others because it already had the – and as you say, it is a good news story, a message that – and that's partly because of the things that the PHLS, HPA and PHE had done over 30 and 40 years to think about these issues. So, it was in everybody's mind that this was a good thing to do, and out of that you can have that sort of research.

Jane Leese

Yes, one strand of planning Jonathan Van Tam and I were involved in was to develop a clinical network ready to go to answer important clinical questions. He had been instrumental in setting up these networks with research.

Stephen Gillespie

Yeah, and that was during the 2009 pandemic.

[60] International Severe Acute Respiratory and emerging Infections Consortium

Jane Leese

Yes.

John Watson

It's a very quick point to follow up a point on Diana's notion that among the psychological pressures is the one about suppressing bad memories when it comes to these things. The other one is the issue and perception of the futility of preparing yourself for the last war. And then, if you take all these steps, what comes along requires a completely different set of things that you need to have ready.

Stephen Gillespie

Though, to be fair, most armies do prepare for the last war, but they practice sufficiently intensively that once they see how the new war is going to change, they can adapt quickly.

John Watson

And that's where the exercises come in, absolutely.

Stephen Gillespie

That's where the exercises come in, and having the capacity of people who are extremely well-trained and adaptable comes in, and that's where the HPA and PHLS provided a cohort of people who were well-trained, and it was one of the issues I hope we will talk about before we finish is about Public Health training, which takes – PHLS, HPA had a very big role in its relationship with the NHS, and with the college, to ensure that they're properly trained – and the various colleges – to ensure there's a properly trained cadre of individuals that can react to public health emergencies.

Sally Sheard

So that actually picks up Claas' question, but before that, there's one from Peter, which I just think it needs a very quick answer, and maybe Diana or Brian, can you give us a response on under notification of disease.[61]

Brian Duerden

There's always been a debate as to getting notification from laboratories. For a long time many NHS laboratories were very good about notifying in – at least on the microbiology side – into CDSC. We got a lot of material from them. And there was a difficulty getting a pressure to make it statutory – making it a requirement – because the thing always came back, 'Oh, but we're not paid to do that, and we're not funded to do these extra things for public health'.

Now, that came to a head in the early 2000s with the move to the HPA – most laboratories then being run by the NHS- and the Carter report pushing hub and spoke pathology services and the involvement of the private sector. Put all of that together, and there was at last perceived to be a risk that laboratories would not report in, and it was particularly getting it into the contracts with the private sector. And I can say that quite clearly because I was involved in those discussions. It was one of my things as Inspector of Microbiology, 'We must get the input from all the laboratories'.

So that's why – and 2010 was actually when I finished in that role – but we did get it in as a requirement.

[61] The question was in the online chat box

Nigel Lightfoot

It's important to recognise that in the PHLS as a Director of a laboratory you had to report. It was part of your job. There was no choice. You reported everything, and more, into the centre.

Nicholas Timmins

And does that answer – it doesn't address Claas' second question, and it's quite interesting, which is – Claas, I'm not sure if this question is answerable – but how did the different public health agencies perform outside of emergencies, did infectious disease decline?

Stephen Gillespie

It depends on what you're talking about. Some places delivered, some places didn't, and that's the way life is. But the thing is, these laboratories were embedded in NHS, and they had an obligation to do this. The NHS also provided capacity for public health emergency, as long as you had the enthusiasm to do so.

Brian Duerden

Part as a comment to Claas' question about performing, it really does depend on what sort of infections you're talking about. As an example of healthcare associated infections, over the last 40 years that's gone up and down, and it depends on how many there are, how badly it's perceived, and then the enthusiasm to get something sorted out, and then it falls away. We saw this in the early 2000s. It was a frontpage story, 'Get it sorted', and we got things going down. I know, now, that there is far less emphasis on it in the hospitals and healthcare settings that did have problems and got on top of them.

I go back – I visited hospitals in the last few – well, not during Covid – during the last few years and was still seeing notices on the boards that I wrote. And that shows that there'd been nothing new for however many years.

Nicholas Timmins

If you take hospital acquired infections, *C. difficile* and MRSA, which we did a huge surge and it dropped away. Was that because of action that was taken, or was it simply that the bug became a bit less virulent?

Brian Duerden

I hope it was from the action we took because we put an awful lot of effort in getting improved infection control, and it had got very bad.

Sally Sheard

And part of it was driven by finance as well.

Stephen Gillespie

Absolutely, and when I started – I started as a consultant in 1989 – and it was very hard to interest the management about infection control. Impossible, but until we showed them the costs, and the inflexibility imposed on the hospital, we often had to say, 'If you don't want to close this ward, I'm going to write you a letter saying you need to close that ward, and you can take the decision if you

want, but it will all come out'. So, you had to be as – but within a few years – because of the MRSA and *C. difficile* that came along – people started saying, 'This is important'. [62]

And that's partly due to the cohort of microbiologists going back to the PHLS and HPA role with training, and the way in which the college engages with that – which Brian might want to comment on – that created a cadre of people who had the expertise and the chutzpah, to go and beat up the managers when necessary.

Brian Duerden

And they had the support because it was a political hot potato at the time. I found, although I had no direct authority – I was not HM Inspector – nobody would put the phone down on me about MRSA or *C. difficile*. It was a target. It was important. We had to do something –

Stephen Gillespie

But getting it to be a target was really important, and in the late '80s you would never have got something like that as a target in hospitals. That never would have happened. And that's the transformation that occurred, and that's something to do with the public health colleagues we were talking about making that change and contributing to it.

Nicholas Timmins

Diana, and then John.

Diana Walford

Well, I'd like to pay tribute unusually to NHS England, for example, because I was on the board of UCLH for a period – for six years – up to 2017, and we had a laser-like focus on *C. diff* because of the targets, and because of the financial detriment and so on, if we actually missed the targets.

It's the wrong reason for being keen to eradicate an extremely nasty infection, it was killing patients, but absolutely it brought the figures down, and that was an example of how a government intervention, if you like – or through NHS England – really changed the whole complexion of that particular hospital acquired infection. And I think MRSA, that was also previous to that, had a pretty good focus on it, and it's when that focus is brought to bear on something that you really see action.

But if there isn't that degree of focus, I think things just – local people do things their own way, and that may not be a priority for them.

John Watson

It's just a further point on why it's so difficult to answer Claas' question, and I think it depends from disease to disease, but there are so many other moving parts. In particular, let us not forget the fantastic and ever-growing role of immunisation programmes in preventing so many of these and changing the landscape. Just look at bacterial meningitis and the way it's been informed because of that.

[62] Methicillin-Resistant Staphylococcus Aureus (MRSA)

Nicholas Timmins

Yeah, well, it's getting towards the end. I think we're go back to a few things that half talked about, and you wanted to talk about training, and the start of the training of a bunch of epidemiologists way back in the '70s.

Stephen Gillespie

Yes, but it's the way in which, over the last 20 years, microbiology training merged with infectious diseases training and the epidemiologist joined- came in, and I know microbiologists had epidemiology training. And it's that process of the last 20 years which has created a cadre of people who can deliver the service that I think is so important.

Nicholas Timmins

And that's being maintained?

Stephen Gillespie

That I can't say because I don't sit in the college committees anymore, but Brian might know.

Brian Duerden

That was one of the worries about the various moves. HPA initially was going to move many of its training posts across into the NHS. I think I was dispatched around the country to try and negotiate it, much to my reluctance – it was a reluctant job – but then I think they changed their mind and managed to hang onto a good number of these trainees – training numbers and training posts – so that they could continue to train people in public health microbiology crossing over into epidemiology, and so on.

And that actually fitted in with the increasing joint training across the board with the infectious disease people that means we have infection doctors. I think, it's a better terminology, now.

Stephen Gillespie

Exactly, and public health microbiology is on the curriculum. You have to do it. They cover it.

Lindsey Davies

There is another aspect to the training that I'd certainly like to give credit to all three organisations for, and that is for the contribution they've made to Public Health training, over the years, which isn't the microbiology, but it's prevention and control of communicable disease bit where it's always been totally important to spend time with local experts, if you can. It's been much fought over to get a placement in PHLS or PHE or HPA to really see how things are done – how things should be done properly – and then go out and do likewise. It's what I always felt.

Nicholas Timmins

I've got a section here that says, 'What are the motivations for reconfiguring the organisations, and what was the impact?' I think we've done that in bits and pieces all the way through, haven't we? Unless somebody wants to intervene precisely on that.

Stephen Gillespie

A very small intervention – we haven't mentioned the elephant in the room – a lot of these reorganisations are driven by politics. I'm not going to say any more than that, but that's the thing

that we cannot control. We have reorganisation forced upon us for reasons that are not necessarily scientifically relevant.

Lindsey Davies

I think the Department oscillates between wanting to be in charge, and then something happens, and they want to devolve.

Stephen Gillespie

Exactly.

Nicholas Timmins

It's clear that PHE was a product of politics, and it came out of that dreadful document, 'Programme for Government' which was produced to try and unscramble that. HPA was politics? – the move to HPA, as we discussed earlier, did seem to bring together in quite an important way?

Stephen Gillespie

Sometimes politics can get it right.

Nicholas Timmins

Yeah, I suppose it's possible.

Sally Sheard

David's got his hand raised.

David Heymann

HPA, and then PHE had a good two-year field epidemiology training programme that was very closely linked to the ECDC's field epidemiology training programme called EPIET. I don't know if this training programme continues in UKHSA, but it is one way of developing a cohort of well-trained epidemiologists.

Richard Gleave

I was going to raise research because one of the – the creation of the HPRUs was, in part, part of the HPA to PHE move because money that was in the HPA was taken out and not given to PHE, and used to create the HPRUs in the NIHR, and that mirrored a process that had happened in hospitals when I was working in the NHS where lots of research money in hospitals came out. [63] The hospital I was in was part of the pilot project for that. It caused huge pain around it. It did cause pain for new PHE because it was another element of budget reduction, but I think there's a really interesting question about whether that model – and this was Sally's vision, wasn't it, who really drove this that created a competitive environment around research – was a good one? [64]

I think there's quite a lot of evidence to say, yes, this has led to – this is a success around it. It might have been short term pain for me and the management team in PHE, but if you think where we've got to around HPRUs now –

[63] The National Institute of Health Research funds Health Protection Research Units. These are partnerships between universities and Public Health England/UK Health Security Agencies. The first HPRUs were launched in 2014.
[64] Referring to Dame Sally Davies who was Chief Medical Officer, 2010-2019

Nicholas Timmins

I think most people would say that's been a success, wouldn't they?

Sally Sheard

You could look at the witness seminar that we did on the formation of the NIHR, and there's research on it, yes.[65]

Nigel Lightfoot

It's something I just listened to – which is that the funding for delivery gets less and less as we go through the years. As the PHLS, you were having to manage cuts all the time. In the HPA, Pat Troop, was having to manage cuts from the very beginning. It was a year after setup, a lot of money taken out, and then you're saying when the HPA goes to PHE more money is taken out of delivery. So, I think there's a clear message that if you don't fund delivery, you won't get the quality that you want.

Richard Gleave

Just coming back to the research bit, and the money, there is one group of people who get disadvantaged by this really seriously, and that is early career researchers because they are on short-term contracts, and this model of research funding – we fund a lot of PhD programmes – all the way through PHE. I think HPA did. We see it as a budget to protect because it's an investment in the future. Those are people who are on permanent contracts of employment. You'd never have that security in a university at that stage in life.

And the way in which the research funding mechanisms operate around competition means it's the only way that universities can make it viable is by having a compliant early career workforce.

Stephen Gillespie

You've got to remember that, as well as the individual competitive applications for PhD studentships, there are postdoctoral fellowship programmes which top universities have, and they can have their internal thing, so there are many, many more opportunities for early career people to get PhDs, and post docs than there were 10 years ago. I don't think – that's not a problem, now, because there's so many new opportunities, and things like NIHR, Wellcome, MRC have increased that. I think we probably agree that British research is better for being competitive. In Europe, where there is less peer competitive research, they're saying the quality isn't as high.

Nicholas Timmins

What I suggest we do is can we track back through the chat, because Allyson asked a series of questions, which I'm not sure whether we can answer or not, but we haven't addressed at all. And after we've done that, I'm just going to –

Helen Piotrowski

These questions on asymptomatic testing.

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[65] For further information please see: Origins of NIHR Witness Seminar at https://www.liverpool.ac.uk/population-health/research/groups/governance-of-health/witness-seminars/posts/origins-of-nihr/. See Atkinson, S. Sheard and T. Walley, ''All the Stars Were Aligned'? The Origins of England's National Institute for Health Research', *Health Research Policy and Systems*, 2019. DOI: 10.1186/s12961-019-0491-5

Nicholas Timmins

If people could read that and see if there is something useful they could say.

Richard Gleave

I think one thing about UK – about the National Screening Committee – is that it was set up in order to decide whether there should be a nationally funded screening programme in a single model across the whole country. Lots of people talk about screening in other ways, and there are lots of different models of screening, but if you go back to UKNSC, essentially the first decision they take is, is this a national programme, or is it something that should be done more locally? And I don't know whether that impacts upon this specific example of asymptomatic testing for infection or not, but that puts a lot of things that people think, 'Oh, why isn't this a national screening programme?' out of the equation because it doesn't stack up at a national level.

Nicholas Timmins

Right, can you come down one more, Helen, is that possible?

Brian Duerden

I was going to say about the screening, it's only worthwhile if you know what you are trying to detect, can it be treated, and is it going to be worthwhile? What is identifying the asymptomatic carrier of something for – does it matter? If it does, and you can do something about it then it may be worth screening. I've had a long debate on *C. difficile* carriage, which you can't do anything about is it worth screening asymptomatic individuals? In any case, the answer certainly to that is, 'No', because you can't do anything about it.

Stephen Gillespie

Very rarely in infectious diseases it's been helpful, but it is targeted for particular infections where it is useful in particular clinical contexts, like testing people for the presence of hepatitis B, for example, if you're about to have surgery. For that sort of thing, it's relevant. There are so many opportunities to screen. There're so many different infectious diseases, and the decision to screen depends on the pathology of the infection you're talking about.

Richard Gleave

So PHE did definitely – I know that wasn't Allyson's question, but PHE did – and of course the secretariat of the National Screening Committee was in PHE. As was the secretariat for JCVI, which was a change in 2013 because JCVI Secretariat had been in the Department before that. [66]

Helen Piotrowski

Peter has a question.

Nicholas Timmins

Does anybody have a comment on that? If not, can we go down one more. A lot of the research funding has been moved out of [inaudible], yeah.

[Crosstalk]

[66] Joint Committee on Vaccination and Immunisation (JCVI)

Stephen Gillespie

Money wasn't removed from the NHS to universities. It was moved into organisations that give money on a competitive basis, and if you accept that competition for research funding is the most efficient way to get good quality research, then that wasn't necessarily a bad thing.

Nicholas Timmins

Yes, that's fine. Is there anything we've not raised that you would like to raise, Helen? And what I'll then say is we've talked about quite a lot of things. Is there anything we've not talked about that we should've talked about?

Helen Piotrowski

The other area I wanted to ask about was although the ECDC was created in 2004, I think it sounded like there was more of a European collaboration in the late '90s? I just wondered if we could talk about that a little bit. And I'm not clear what was the involvement with PHLS at that time?

Jane Leese

That was under the auspices of the European Commission, and PHLS was an integral part with the Department, and often there were representatives from both at meetings in Luxembourg.

Diana Walford

I don't think we have actually mentioned the rapid response setup that was set up in the late '90s working in Europe to – I've forgotten the name of it, John – but there was a rapid epidemiological response something or other. I mean, it would be possible to track what it was, but it was actually people who would be deployed rapidly to WHO, for example, in Geneva to help handle outbreaks. Can you remember that, Brian? But I just can't actually –

Brian Duerden

No, I can't remember that.

Diana Walford

You can't remember, golly.

Brian Duerden

No.

Diana Walford

And the London School of Hygiene and Tropical Medicine was also involved in setting up this rapid epidemiological response. So, I know it happened, it's not a delusion, therefore it might be possible to find out something about it subsequently.

Jane Leese

There was a secure communication mechanism, wasn't there? To alert people.[67]

[67] Dr Leese clarifies that 'The European Commission also developed a secure early warning system'

Diana Walford

But this was people – actually people going from the PHLS and other places.

Helen Piotrowski

I believe they still have a version of that platform.[68]

Dr Diana Walford

They've got that?

Nicholas Timmins

Can we go David, Claas, Lindsey, John? David-

David Heymann

The UK works with WHO when needed, and is supported by a back-up fund that is accessed by supervisors to pay for the loss of staff when they support WHO in outbreak response. This has been more fully developed after the SARS outbreak in 2003 when their epidemiologists from the UK were immediately seconded to WHO for several months at a time.

The UK Rapid Response Team today is based at the London School of Hygiene and Tropical Medicine. Whenever there's a request, the UK is able to provide immediate support, and in between the Team conducts research on preparedness and outbreak management.

I might say also that I agree with Richard on the HPRUs. They've been extremely successful. The public health research teams between academia and Public Health England are very important, and bring in competition and high-quality work identified from their global horizon searching.

Nicholas Timmins

Claas.

Claas Kirchhelle

Only one thing I would really like to get at with this group of experts here is just perceptions on the different Public Health systems that we're evolving across the UK during this time. I think so far, we've spoken a lot about England. Some comments have been made about Scotland, and the Welsh decision to maintain the PHLS laboratories. I wonder whether people in the group would like to offer a broader reflection on how they saw these quite distinct legislative systems developing, and whether on a day-to-day basis, there were differences in performance that resulted from these.

Nicholas Timmins

Does anyone have a view on that?

Stephen Gillespie

It would be very hard to answer that question because we don't have the detail, but one of the things that mitigates difference is the fact that the training across the country is unified, and the standards required for those who are practising is assessed. The curriculum are set by the colleges, and people

[68] Referring to the UK Public Health Rapid Support Team, which is co-led by the London School of Hygiene and Tropical Medicine and UKHSA. It was launched in 2016 and is funded by the Department of Health and Social Care.

have to achieve that, so that will always mitigate differences between them. Certainly, I find Scotland very different from HPA and my experience in England, but I think that's good. That doesn't mean that it was inferior. It's just different.

Nicholas Timmins

I was going to say is it just different or is it just different.

Stephen Gillespie

Well, it was a reflection of the ethos within the Scottish health service more than anything else.

Sally Sheard

I think there was also a political component to this. I know, when I wrote the history of the CMO book with Liam, I interviewed previous CMOs, and they had quite clearly gone to the devolved nations for different public health purposes at a time when the UK government was very opposed to any progress on Health for All targets.[69] So Ken Calman could do nothing from his English base, but he could ask the Welsh CMO – he'd go to Deirdre Hine, and say, 'Can you progress this?' So public health has progressed in different ways – for political reasons – in those territories, yes. [70]

Richard Gleave

I would observe as – sorry, am I – so Brian made a very important point about the difference about the laboratory network in Wales, which I think is fundamental. So, I've worked with colleagues around that, but with the creation of Public Health Scotland, that was heavily influenced by a PHE model, and PHE was putting a lot of information into the work on the creation of that, in the pre-Covid period.

And you would then have ended up with three – in the big three countries, and Northern Ireland always a little bit different around it – where there would have been a three-domain model of public health in terms of its remit. Slightly different in terms of their legal form, but actually from the visits that we made – and we did quite a few board-to-board sessions at the time. More at the executive level than at the advisory board level, so my perspective is slightly more integrated than the comment David made earlier around that – there was a convergence of moving together. It felt to me, if Covid hadn't have happened, I think you might have seen that happening around that.

And that is the sort of model that David was talking about in the European sense as well around it. All public health agencies struggle about a politics-to-agency basis. It's very interesting to talk to colleagues in CDC China about how they have to manage exactly that sort of interface in a completely different political system around it, but I think, in the detail of the health protection component, then there are some important differences like the one Brian highlighted around the labs because that is very important in the way Public Health Wales operates.

Nicholas Timmins

One thing we have not mentioned, but always intrigued me, is Porton Down. Where does Porton Down fit into all this?

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[69] Health for All was a WHO strategy. See S. Sheard and L. Donaldson, *The Nation's Doctor: The Role of the Chief Medical Officer, 1855-1998* (Oxford, Radcliffe Medical, 2006).
[70] Sir Kenneth Calman was the CMO, England 1991-1998. Dame Deidre Hine was CMO, Wales 1990-1997

Stephen Gillespie

How long have you got?

Jane Leese

It's varied over the years, hasn't it?

Nigel Lightfoot

I was a board member at Porton Down while I was working in the PHLS. The reasons, I think, because of my expertise in biological warfare and things, and it functioned quite separately from the PHLS, and eventually they had a problem in producing anthrax vaccine for the Ministry of Defence, and there was an inquiry, and it was the chairman of the HPA, and myself, and David Harper from the Department of Health, who were closely involved in it. [71]

And we looked at it, and saw they were facing in the wrong direction. Strategically, they were facing the private sector, and so we reported back to the Minister, and the Minister just changed everything the next day, and said – and CAMR – you had problems with CAMR because it was a money sink for you. [72]

Diana Walford

Well, actually, really it wasn't in terms – because when I came into the PHLS I was faced with a fait accomplis. The board of the PHLS had really not been able to manage CAMR because it was out in Salisbury plain, and basically it was not – it was simply almost unmanageable as an entity by a central board. And the board actually lobbied the Government so that in fact CAMR could come out of the PHLS. And I went in naively thinking, 'What a disaster. What have we done? Why have we taken – why are we not going to have CAMR in with the PHLS?

And it was my really sad duty – one of my first things that I did – I had to go down to CAMR and say to everybody, 'I'm sorry, but actually we're now splitting off from you'. I mean, it was a really difficult meeting, and something I was always very, very sorry about, and I was really pleased to see CAMR come back into the fold. I think it was the wrong move, and I think it was really largely because the board of the PHLS found it could not manage CAMR from that distance.

Nicholas Timmins

When did it come back in?

Diana Walford

It came back into the HPA.

Nigel Lightfoot

It came back into the HPA and played a significant role. A very important role.

Brian Duerden

As an independent organisation, in that sense, in some ways it had been neglected in that interim. So, in the latter years going down there, there was so much needed to be done both professionally and

[71] Chief Scientist and Director General of Health Improvement and Protection, UK Department of Health, 2003-2012
[72] Centre for Applied Microbiology and Research moved from PHLS in 1994

physically to the place, that it really was needing a lot of attention, which it had not had because it was a very small cog. It was a very important one.

Nicholas Timmins

Yes, as Salisbury demonstrated from the start, yes. Did you have you hand up, David? I wasn't sure, no.

Helen Piotrowski

I also wanted to – because Allyson said that Peter's question hasn't been answered, but I think maybe – because it's hard to answer maybe, but I don't know if Peter you want to ask it verbally?

Nicholas Timmins

Peter, we did all read it and there was silence. I don't know if people have anything to say having read it a second time.

Peter Roderick

Yes, I was in two minds as to whether I should put it into the chat because I was thinking, if I had a chance at the end it was the one question I wanted to ask really, but it seems to be the big – the more I read into this – the big reconfiguration in a way, and how we construct the approach to health protection. And it clearly became – it really started from the UN in the 1990s, UNDP, the idea of human security, and then health security as a part of that. And now we've moved, as it were to, as I said, to a UK Health Security Agency, and that's – where does public health fit to that?

Where does the traditional ways of thinking about public health – its ways of operating and all that – is now subsumed within a security, foreign policy, national defence of the realm almost thinking. And I just think that's quite – and that's also quite interesting because of the devolution legislation as well, and the shift from Public Health England to a UK body presumably under the prerogative powers of a national security issue, so maybe it's too big a question in a way, but I would be really interested if people had any thoughts on that.

Nicholas Timmins

Does anyone have a particular view on that?

Richard Gleave

I don't think there's a statutory difference between PHE and UKHSA. I'm not aware of one. They're both executive agencies, so therefore it's secondary legislation. The basis is really the delegation of the Secretary of State's powers in the 2006 NHS Act around it. I think the security is a word that was felt by politicians to be a good way of communicating. One of the ironies is that – I thought about saying this earlier on – is that some of those dilemmas we were talking about – the profile of surveillance and understanding about money, about being able to 'surge up' in order to meet something, and the difference between 'peace' and 'war time' – those are integral issues for the security sector and the Armed Forces.

They get a lot of business cases through, though they've had huge financial pressure over the last few years, and there are some obvious policy-type political parallels, even though it's quite different. Surveillance around national security doesn't feel a properly understood concept in government in the way that I was saying surveillance around the nation's health, and the threat of communicable disease is.

Nicholas Timmins

Diana, Sally, John.

Diana Walford

Well, I don't have much to contribute, but just looking at this 9/11 concept – and I think Nigel mentioned it earlier – I really think the motive force actually, or rather what put the engine behind the move to the HPA, was the business of bioterrorism, was the anthrax, and potentially botulism that people were worrying about it.

And I think, therefore, only to answer a tiny fraction of that question, the health security – the national security side of things – really came to the fore with 9/11, and then the transfer – obviously the creation of HPA. But of course, also when you think about it, we're going back to the beginning of the PHLS. It was the Emergency PHLS in wartime, so basically that has been a motive all the way through.

Nigel Lightfoot

I've watched the changes all the way through, and now people talk about 'global health security', and at a global level, global health security means lots more than just security. It's about people having food. It's about populations being safe, and that's what everybody means by security. And that – maybe you get the confusing bit because it's used as 'national security' as well.

Sally Sheard

Just a personal reflection on this theme is that at the start of the Covid pandemic, when we were looking to set up the systems for Liverpool and Merseyside, we had the city network and the command structure, but then in parallel with that we had the Merseyside Resilience Forum. The Resilience Forums are a national network – and I think a lot of us just had no understanding or even recognition that those things were sitting there mothballed, ready to get going. I remember looking them up – doing a Google search 'Resilience Forum'. This was February or March 2020 – and the holding page for the Merseyside Resilience Forum had a green banner across it, and it said, 'There are no threats to Merseyside'. And by this stage we were having nightly calls as the Resilience Forum to manage hospital admissions.

And then we had the arrival of the national leads, who were then taking over and instructing, and we had to really rebuild those relationships from local public health into the Resilience Forum, into the police, etc. The Resilience Forum network had run some exercises a few years earlier, so they were clearly – they expected to come in and do what they had to do. But we didn't all know about them.

Nigel Lightfoot

I saw them come in post 9/11, and they were how you put multi-agency responses together. And there was always meant to be an element of health, but health never took the lead. It was about how do you look after the population of that area and who's going to do it.

Richard Gleave

So, in 2013 there was, in effect, a subcommittee of the Local Resilience Forum, called the Local Health Partnership. I've missed something out LHRPs – Resilience Partnerships – which were co-chaired by NHS England, and by one of the directors of Public Health in the footprint, but of course there are 43 of these, so they don't fit on any other footprint.

And when you're in something like a city region, as I live in one and have been quite involved in, it just makes no sense at all. And there is a very complicated structure, and they of course were the 2004 Civil Contingency Act creation, and there was a big issue in Covid, and I was involved in that with Association of Directors of Public Health about explaining that public health system of disease control and communication into how that fitted into that wider resilience network. So I've got a similar experience to Sally, but from a different perspective.

Lindsey Davies

Yes, that does lead into one of the points – I had two quick points to make. One is about accountability in the system, and who is accountable for what. Particularly who's in charge, ever, of protecting the population from communicable disease? And when you look at the Acheson report back in 1988, it said responsibilities were baffling and that's why he was putting some recommendations, which weren't all fully followed but did end up with the move into the NHS. But even then, nothing was particularly clear at that time.

I don't think it's particularly clear at this time, and I think that can only have made it more difficult for PHLS, PHE, HPA to do their job because nobody's ever really quite clear whether they are supporting or in charge. And that was one of the big debates that we had in the Lansley reforms that I was involved in. Who is going to be in charge? Is it the – and David was very much involved in those conversations as well at the time – it's about, is it the DPH who's responsible, supported by PHE, or is it the other way around? And that was always very complicated and never fully resolved, I think, and that has been one of the continuing issues, but which can't have helped the contribution from –

My second very quick point was about churn, and the implication that churning organisations, and people, has had on the ability of any of these organisations to do their job. When you put that alongside the churn in the NHS, and the local authorities. I'll stop.

Nicholas Timmins

On Lindsey's first point, there –

Stephen Gillespie

Can I make a quick comment on that – that Justin McCracken did a lot of work on trying to address some of those questions.[73] I don't know what happened to the work that he did, whether it just vaporised.

Lindsey Davies

I know.

Stephen Gillespie

He drew complicated diagrams about who was responsible. So, it was just important work because you'd stand back and say, 'We help, or we're responsible'.

Lindsey Davies

It's really hard.

[73] Justin McCracken was the Chief Executive HPA 2008-2013

Nicholas Timmins

And do people broadly agree with what Lindsey said – accountabilities are not that clear?

Stephen Gillespie

They're not clear at all.

Richard Gleave

I think you have to wonder what we mean when we say accountability. I'm sorry to say, I'm wholly academic about this, and the 'to whom' is an important question in the – as well as the 'who's accountable for what' because we have multiple accountabilities, -any NHS chief exec feels that every day of their jobs, don't they? Are they accountable to their local community, or are they accountable up the tree?

Nigel Lightfoot

Because resilience is about crisis. It's not about normal everyday working, and that's different accountabilities. In a crisis, you need control from the top.

Stephen Gillespie

And that needs to be clear.

Nigel Lightfoot

It needs to be very clear who does what, when.

Nicholas Timmins

I promised to let you get away at 5.00. John, you had something that we haven't already raised.

John Watson

I wanted to pick up on what I think was part of what Peter was saying, which was that any discussion about communicable disease control inevitably gets focused on some of the nuts and bolts, the practical, the what happens in the lab, what happens in the epidemiologist's office, and all that kind of thing. And particularly when you start thinking about emergencies, and the need for procedures to be able to hone in on things. But in peace time – most of the time – communicable disease control is about that, but it's also about the whole business of disease prevention and health promotion.

And we talked a bit about whether it's right to have those kind of functions sitting in the same organisation, or different organisations, or whatever, but we didn't really talk about – however that is organised – how you can ensure that the right emphasis, and the right amount of resource is available, and is put into those other aspects of enabling the population as a whole to have fewer, less of this communicable disease, than they might otherwise have. We didn't really touch on that at all, but it does seem to me to be a very important part of thinking about the whole of the communicable disease structure.

Nicholas Timmins

And do you have an answer to that question?

John Watson

No, not really, other than perhaps somebody else can pick that up.

Richard Gleave

It's not just preventing the disease, it's preventing or mitigating the impact of the disease as well, isn't it? So that's important.

Diana Walford

And didn't that show up phenomenally during Covid because it was really – I mean, those who were at the lower echelons, the different ethnic groups, the whole business was exposed in terms of who was going to die from Covid in those early days. And I mean, almost when you raised this issue earlier, John, with the question of health promotion, and how do we have healthier populations? Going through my mind was pound signs because what happens is it's the people who haven't got the money, it is the socioeconomic problems which really drive the huge inequalities, and that's a whole other ballgame. But I almost don't see how any structures that any of us could think of, or devise, will actually tackle that. This is a question for government. This is a question of how the social structure is stratified.

John Watson

But government needs to be presented with evidence.

Diana Walford

Indeed, indeed, and that's what surveillance is all about.

Nicholas Timmins

We absolutely know how the deal with health inequalities, you just make the poor rich, so –

Stephen Gillespie

Well, that's true. That's what's happened in the last 100 years. Many more people around the world have become rich, and they're healthier. What a surprise.

Nicholas Timmins

I'm not remotely going to try and settle that, you'll be delighted to hear. Is there anything you want to say, or shall I just say thank you very much indeed to everybody for coming. Thank you for those who have been online. I hope I managed to catch your eye – you catch my eyes – sufficiently. I thoroughly enjoyed that. I hope you all felt it's worthwhile, so thank you very much indeed.

Post Witness Seminar Contribution by Dr Patricia Troop

I'm sorry I was not able to join you on the day, but here are some considerations from my experience and some reflections on the points made in the discussion.

In Public Health I worked at the district, regional, and national levels and across the different domains of public health. My national posts were as the Deputy Chief Medical officer and Chief Executive of the Health Protection Agency.

For me, the starting point for any public health programme should be primary prevention. This requires multi-sector working as, for example, disadvantaged groups are more at risk from communicable disease.

Treatment of communicable diseases is within the NHS, with the majority in primary care, so the management of communicable diseases also requires a coordinated approach.

At the Department of Health, my first experience of a major national emergency was Foot and Mouth disease, when I recognised that we had neither the infrastructure nor a plan to manage a similar scale public health emergency. I set up a response centre which was used almost immediately for our response to 9/11. We were asked to plan for major incidents involving communicable diseases, chemicals or radiation, so pulled together professionals from across all the agencies and the NHS. This demonstrated that there were many common elements and required skills to plan for different scenarios. Therefore, when the Chief Medical Officer, Sir Liam Donaldson, produced Getting Ahead of the Curve, it included health protection, and emergency planning.

The CMO also set out a policy for reconfiguring laboratories for public health. This was separate from, but often conflated with Getting Ahead of the Curve. The concern that there was a significant management responsibility for running laboratories where only about 5% of the work was public health, and that all local laboratories make a public health input. Therefore, the aim was to have a core of specialist public health laboratories, and regional laboratories who would work with all the NHS laboratories in the region for their public health input.

Setting up the HPA was not straightforward, both in its planning and implementation. Pulling together personnel from many other organisations, including the national centres, the NHS and universities, with multiple finance, information and staff payment systems and widely different cultures was a challenge, but necessary to produce an integrated service.

There was considerable debate about the local teams. Leaving health protection personnel in local teams had the advantage of keeping the breadth of public health together. On the other hand, creating dedicated teams allowed the development of a critical mass of people with a range of skills covering all aspects of health protection, whilst working closely with local communities and colleagues in public health and the NHS.

My view is that public health needs this strong frontline community base. During my career, I carried out a number of service reviews. The starting point was firstly about the outcomes we wished to achieve and the level of need. But then to develop the service, it was about putting the patient at the centre and building the service round them. That was my approach within the HPA, with both the patient and community at the centre. There then needed to be effective interaction between the frontline and specialist services which were mutually dependent.

This should also strengthen surveillance, which is a core element of a communicable disease service. With modern technology, it should be possible to draw data from one system to another and have real-time information. However, when I was vice chair at Cambridge University Hospitals we introduced an electronic patient record, and one of the most difficult sections was linking with the

laboratory systems, and for them to link effectively externally. So, the theory is much harder in practice.

Another feature of trying to build a unified system was to try and achieve consistency. For example, we found different protocols for managing outbreaks in different localities and different systems in different laboratories. As an example, I visited each laboratory working on TB. Each had a different approach, which they all assured me was the right way. Having agreed protocols is essential to achieving a high quality of service, as long as it still allows for new thinking and innovation.

Part of the discussion at the meeting was whether or not health protection and wider public health should have been brought together. In principle I agree, as this should bring together different aspects of the same problem. However, at the HPA it was hard to breakdown 'silo' working, so that might be a barrier. Experience also shows that memories are short. There has been a tendency to push health protection to the sidelines until the next emergency.

Another discussion was about research. I understood why Sally Davies wanted to centralise the funding and it did have achievements, but I was concerned that the HPA would lose its research focus. In many areas it was leading on research, often working internationally. My experience with clinical departments was that having an academic element brought in young people with new ideas, created a critical mass and generally improved the service, so I wished to maintain that within the HPA.

My final point is that this is a global problem, and individual services need to work as part of a global system.

Pat Troop

29/08/2023