

## **Written Evidence Submitted by UK Clinical Virology Network (CVN) (CLL0072)**

We have submitted this document as members of the United Kingdom Clinical Virology Network (CVN) and the key lesson, we feel, is that our network must be involved from the start of any potential virus epidemic/pandemic, collaborating with other professional groups and healthcare authorities including public health and Public Health England/National Institute for Health Protection.

In order to illustrate why there must be proactive involvement of the CVN in future, a brief summary of the network is as follows. The CVN, which has charitable status, was established in 2000 and consists of a linked and co-ordinated group of laboratories distributed in all major infection diagnostic centres throughout the UK and Ireland.

Over the last 20 years, the aim of the CVN, has been to promote the interests of clinical virology, and its medical and laboratory practice in the United Kingdom and Ireland.

Members of the Network comprise Consultant Clinical Virologists, Infectious Disease/Virologists, Medical Microbiologists and Specialty Registrars in Specialist Virology Centres (SVCs) and Reference Laboratories together with those equivalent posts in Specialist Virology Units (SVUs); Consultant Clinical Scientists and Clinical Scientists in clinical virology; state registered Biomedical Scientists working in clinical virology.

There are 45 SVCs and SVUs across the regions of the UK and Ireland, all liaising with local health protection teams.

The CVN is in a unique position as it is represented in various professional groups including Universities, the Royal College of Pathologists, Public Health England, British Infection Association and the Healthcare Infection Society. In addition, the CVN has Corporate members that include a number of international companies that produce commercial assays, equipment and software systems to analyse assay data and participate at the annual scientific conference.

The CVN provides evidence-based and practical virological advice on all aspects of viral infections; helps to establish and maintain the standards of practice amongst its membership and promotes a uniform approach to surveillance; a rapid and considered response to virological emergencies; centrally agreed protocols for the management of viral infections and best laboratory practice; an education and training resource and undertakes related activities such as assisting with the standards for microbiology investigations (UKSMI) group .

On July 10 2020, a group of 70 virologists signed a letter written by members of the CVN Executive hat was sent to Professor Chris Whitty, Chief Medical Officer for England, Sir Patrick Vallance, Government Chief Scientific Adviser and Professor Jo Martin, President of the Royal College of Pathologists.

The letter was written in their capacity as clinical virologists to express concern over lack of engagement by policy makers with clinical virology expertise in the UK in the management of the SARS-CoV-2 (COVID-19) pandemic. In particular, that their skills had been under-used and under-represented (albeit to differing extents within the devolved nations of the UK), resulting in lost opportunities to establish a co-ordinated robust and durable testing framework for SARS-CoV-2.

It was not clear why a group of trained clinical virology professionals providing a wealth of experience in the diagnosis and management of viral infections in acute hospital trusts and in the community had not been involved. Furthermore, this group works closely with colleagues in public health and academia.

Examples of the expertise that the CVN could have provided include:

- Validating a range of genome amplification platforms to overcome supply chain issues
- The early establishment of staff and in-patient screening
- Providing cohesive end-to-end sample processing generating traceable results much more quickly than pillar 2 testing
- Reporting directly to responsible clinicians
- Transferring our data directly to public health reporting systems. We believe we could have contributed far more to many essential aspects of the pandemic response, notably around screening methodologies and their

implementation and in the management and communication of test results

- Helped inform those delivering the response, fostering a sense of involvement and value and improving practical aspects particularly checking the practicality of multiple requests from NHSE and DH

In particular we would have recommended and facilitated :

- Emergency discussion with the Specialist Virology Centres and Units in the UK to maximise access to locally delivered diagnostics. This would include strategies to underpin the most effective use of emergency point of care tests with appropriate laboratory-based confirmation and performance monitoring. Our collective experience and infrastructure provides linkage to primary care and Health Protection Teams, rapid and flexible result communication systems, collaboration with local academic centres and scientists already carrying out molecular and other innovative techniques, established cross-cover surge arrangements with a primary focus on minimising result turnaround times, of essential importance to patient care, public health, and generation of meaningful data for planning.
- Immediate roll out of validated SARS-CoV-2 RNA PCR assays to any laboratory that could complete appropriate quality assurance and report results locally and centrally.
- A testing strategy coordinated to inform management of patients and healthcare staff without risking exhaustion of the workforce through testing diktats with no clear purpose and an unrealistic deadline for standard quality systems.

We were concerned about the adverse effects of the roll-out of SARS-CoV-2 antibody testing, which contradicted the basic principles of diagnostic assessment as set out in a 2020 strategy document from the Royal College of Pathologists. The focus on test numbers detracted from considerations of test quality, interpretation, clinical need, and result communication to those who supplied the samples.

We were also concerned about the amount of effort that was misdirected in pursuing a variety of testing platforms that had not been fully evaluated and strategies that put pressure on laboratories to accept them as part of their testing

process.

Clearly, given time pressure, it was important to direct limited resources appropriately and CVN members were best placed to make such informed decisions about the most suitable approach and testing platforms to explore.

We work as a network, and offered to help with planning for, and dealing with, any subsequent waves of infection that we are currently witnessing.

In future, we can enable better communication and collaboration between major institutions (PHE, NHS, RCPATH) provided there is increased representation of clinical virology expertise on appropriate policy making bodies. We are ideally placed to understand what is achievable with current infrastructure and staffing, and to advise on the investments in people and facilities needed now to prepare for the upcoming challenges of this and future pandemics. In addition, we are well-placed to promote and disseminate advice and guidance, using our established professional networks to facilitate rapid adoption.

We are proud of what we achieved as a network when dealing collectively with the 2009 influenza pandemic, and had hoped that lessons learnt during that experience would have been applied.

By September 2 2020, the UK CVN had established a UK Clinical Virology Network Advisory Group representing all the regions in England and devolved nations of the UK and Ireland. This group sent a letter to Baroness Dido Harding, Interim Executive Chair, National Institute for Health Protection (NIHP) and Mr Michael Brodie, Interim Chief Executive, PHE.

The letter outlined our view that the establishment phase of the NIHP was the ideal opportunity to build a new relationship with the clinical virology community of the UK. We work as a network, and offered to help with planning for, and dealing with, any subsequent waves of infection. Moreover, the NHS and academic associated laboratories include most of our members and our membership of the Royal College of Pathologists enables rapid and functional communication and collaboration between these institutions.

Previous communication with Professors Whitty, Vallance and Martin drew recognition and a recommendation to contact agencies such as NIHP.

To date, opportunities have been lost by not involving the clinical virology professional network in programs such as diagnostic strategy, including test choice, placement, and result interpretation and communication.

This has been highlighted by:

- Focusing testing in the Lighthouse laboratories rather than funding expansion of those existing and experienced NHS laboratories able to provide large scale testing
- Finding that the Lighthouse laboratories inadvertently competed for consumables, reagents, kits and equipment with the NHS laboratories. The timescales involved in ramping up testing capacity at these newly created Lighthouse laboratories meant that reagents were redirected from established laboratories which could have provided more immediate diagnostics at the critical early phase of the first wave
- Not involving the NHS and university laboratories sufficiently and not fully evaluating a number of devices including SAMBA, DNA nudge, LAMP, LAMPore, lateral flow and antigen tests as well as Roche and Abbott SARS-CoV-2 antibody tests that were then 'offered' to the NHS laboratories via NHS Trust Hospital Boards or Clinical Commissioning Groups
- NHS laboratories have been asked to deliver results without input from the clinical virology community, using the above point of care/rapid tests for which we have seen little performance data.

The National Institute for Health Protection has a clear remit for managing public health threats, and in the case of COVID-19 the necessary functions align directly the CVN skill set and experience.

The CVN is ideally placed to understand what is achievable with current infrastructure and staffing, especially having close links to public health and universities. We can also advise on the investments in people and facilities needed now to prepare for the upcoming challenges of this and future pandemics. In

addition, we are well-placed to promote and disseminate advice and guidance, using our established professional networks to facilitate rapid adoption.

### **Conclusion:**

We feel that if the CVN and the associated NHS and university laboratories had been involved from March, the capacity for testing and tracing would have been increased and improved from a regional perspective. This would have been augmented by liaising, collaborating and sharing experience with both validating tests and equipment with the Lighthouse laboratories. This would have offered local mass testing as well as regional and national mass testing in a standardised way involving professional networks in the NHS, PHE and public health. The opportunity to notify infections and act on those results locally, regionally and nationally together with the public health teams would have helped the test and trace strategy.

### **Appendix**

This letter was supported by consultant virologists in the UK and Ireland in Aberdeen, Belfast, Birmingham, Bristol, Cambridge, Cardiff, Coventry, Edinburgh, Dublin, Frimley, Glasgow, Leeds, Leicester, Liverpool, London, Manchester, Newcastle, Norwich, Nottingham, Oldham, Oxford, Plymouth, Sheffield, Southampton

Noha El Sakka; Conall McCaughey; Alison Watt; Sowsan Atanabi; Mike Kidd; Husam Osman; Matthew Donati; Sophia Gillett; Peter Muir; Christopher Smith; Tim Wreghitt; Hong-Yi Zhang; Lisa Berry; Judith Timms; Ingolfur Johannessen; Jill Shepherd; Kate Templeton; Jeff Connell; Cillian De Gascun; Rory Gunson; Celia Jackson; Samantha Shepherd; Antony Hale; Emma Page; Julian Tang; Anu Chawla; Ian Hart; Judy Breuer; Sam Douthwaite; Tanzina Haque; Eithne MacMahon; Eleni Nastouli; Deenan Pillay; Emilie Sanchez; Gee Yen Shin; Richard Tedder; Mark Zuckerman; Louise Hesketh; Malcolm Guiver; Paul Klapper; Shirelle Burton-Fanning; Brendan Payne; Yusri Taha; Sheila Waugh; Samir Dervisevic; Louise Berry; Gemma Clark; Will Irving; Joel Paul; Monique Andersson; Katie Jeffery; Peter Simmonds; Richard Cunningham; Alison Cope; Cariad Evans; Goura Kudesia; Bozena Poller; Mohammad

Raza; Emanuela Pelosi; Gill Underhill; Eleri Wilson-Davies; Stephen Winchester; Rachel Jones; Catherine Moore. Emeritus colleagues: Jennifer Best; Jangu Banatvala; Paul Griffiths; Philip Mortimer; Sue Skidmore; Siobhan O'Shea.

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