

## Introduction

On 1st May at 1pm, The Global Health Network supported the webinar '[Neurological disorders associated with COVID-19](#)'. The webinar was initiated by the [COVID-Neuro Network](#) in response to the current COVID-19 pandemic. Although the predominant clinical presentation is with respiratory disease, neurological manifestations are being recognised increasingly. This webinar therefore provided a review of what is known about neurological manifestations of SARS CoV-2 and related coronaviruses, considered the disease mechanisms and outlined a framework for future investigative studies. The webinar was chaired by Prof Tom Solomon, [University of Liverpool](#), United Kingdom. Speakers were Prof Leonardo Pantoni, [University of Milan](#), Italy, Dr Laura Benjamin, [University College London](#), United Kingdom, and Dr Avindra Nath, [National Institute of Neurological Disorders and Stroke](#), USA.

902 people registered, 544 attended the webinar in Zoom, and 30 viewed the [Live Stream on Facebook](#). Attendees represented the following countries:

- Australia
- Bangladesh
- Belgium
- Brazil
- Canada
- Chile
- Czechia
- Egypt
- France
- Germany
- India
- Italy
- Malawi
- Myanmar
- Netherlands
- New Zealand
- Nigeria
- Norway
- Peru
- Portugal
- Singapore
- South Africa
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Tunisia
- Turkey
- United Arab Emirates
- United Kingdom
- United States of America
- Uruguay

## Summary of Individual Presentations

### Prof Tom Solomon

**Affiliation:** Director of the [National Institute for Health Research Health Protection Research Unit in Emerging and Zoonotic Infections](#), Head of the [Brain Infections Group](#), Professor of Neurological Science, and Honorary Consultant Neurologist, [Walton Centre NHS Foundation Trust](#) and [Royal Liverpool and Broadgreen University Hospitals NHS Trust](#). United Kingdom.

**Key points:** Presentation of [COVID-Neuro Resources](#) and [COVID-Neuro Network](#). Call for clinicians internationally to download the [free data collection tool and case definitions](#), enabling standardised data collection for patients with neurological complications of COVID-19.

### Prof Leonardo Pantoni

**Affiliation:** Professor in Neurology at the [Department of Biomedical and Clinical Sciences "L. Sacco"](#), University of Milan. Italy.

**Title:** On being a neurologist in Italy at the time of the COVID-19 outbreak.

**Key points:** Neurological complications of COVID-19 infection, effect of COVID-19 pandemic on the regional/national organisation of neurological disease care, and how “covidization” of health systems is affecting neurology.

### **Dr Laura Benjamin**

**Affiliation:** Senior Clinical Fellow & Honorary Consultant, [Stroke Research Centre](#), University College London’s (UCL) Queen Square, Institute of Neurology. United Kingdom.

**Title:** The emerging layers of complexity in managing stroke patients with SARS-CoV-2 infection

**Key points:** Natural history of COVID-19, case scenarios to illustrate different ways that stroke cases will present in COVID-19, possible disease mechanism based on current evidence and knowledge from other infections. Stroke can be a presenting symptom of COVID-19 with large-vessel stroke being a characteristic subtype, and early therapeutic anticoagulation could be beneficial to reduce thromboembolism in patients with COVID-19-associated ischaemic stroke.

### **Dr Avindra Nath**

**Affiliation:** Senior investigator, [Section of Infections of the Nervous System](#), National Institute of Neurological Disorders and Stroke, National Institute of Health. United States of America.

**Title:** Disease mechanism of COVID-19 in neurological patients

**Key points:** Disease mechanism of anosmia, encephalitis, Guillain Barré syndrome, transverse myelitis, acute disseminated encephalomyelitis, acute haemorrhagic encephalomyelopathy.

## **Summary of Q&A**

*In the Q&A sessions after each presentation and at the end, the panellists were asked a wide range of questions, e.g. about neurological presentations in COVID-19 patients, frequency of specific symptoms, and management of neurological diseases in COVID-19 patients.*

## **Summary of Webinar**

Many aspects of the clinical characteristics and the disease mechanisms of neurological disease associated with COVID-19 remain unknown but interesting data are expected to be published soon. Participants were encouraged to download the [free data collection tool and case definitions](#).

## **Concluding Text**

If you are interested in studies of neurological diseases associations with COVID-19 research, please get in touch with the COVID-Neuro Network [here](#) and share any relevant protocols, associated tools and your experience with us. Due to the demands during the webinar, a follow-up webinar with case presentations focusing on the management of COVID-19 patients with stroke, Guillain Barré syndrome or encephalopathy is being considered.

Further virtual workshops are planned, which will be topic-specific and based on demand. If you would like us to conduct a workshop related to a specific area of COVID-19 research, please let us know what topics would be most helpful. You can get in touch here [info@theglobalhealthnetwork.org](mailto:info@theglobalhealthnetwork.org).