**TITLE PAGE**

**2021 Essay Prize for Foundation Doctors**

*Title*

**Discuss the impact of COVID 19 on ophthalmic care**

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**INTRODUCTION**

The COVID-19 pandemic has severely affected the delivery of eye health around the world. In the UK, in March 2020 the Royal College of Ophthalmologists (RCOphth) recommended eye units to suspend all elective eye operations and postpone non-urgent outpatient clinics.1 England saw a 40% reduction in cataract surgery, and 38% reduction in outpatient attendance during the pandemic.2 As of June 2021, over half a million patients in England were waiting for ophthalmology services, with an average wait time of 10.5 weeks.3 In response to this, NHS England is to receive an additional £5.4 billion over the next six months, including £1.5 billion to manage the elective surgery backlog, with cataract surgery delays identified as a particular concern.4

Ultimately, capacity is the driving issue for meeting the increased service demand generated by COVID-19. In addition to increased funding, a key recommendation from the RCOphth is to expand the number of ophthalmologists by increasing the number of training places available. Responses from eye units to the RCOphth census suggested an extra 230 consultant posts and 203 staff grade, associate specialist and specialty doctor (SAS) posts are needed over the next two years. The RCOphth has stated there is capacity to train at least 20 more trainees annually for the next three years.5 Further, there should be more opportunities for SAS doctors to train and join the consultant workforce and they will consider offering flexible job plans with increased involvement in education and training for ophthalmologists nearing retirement, who offer significant experience and should be retained. A 2018 census found that 27% of consultants were aged 55 and over, highlighting a significant number of ophthalmologists set to leave the workforce in the next decade.6

Ophthalmology makes up 9.4% of all NHS outpatient attendances, and the demand will only increase with an ageing population, a rising prevalence of diabetes, and with new treatments that place greater demand on the eye health service (e.g., regular intravitreal injections for patients with later stage ‘wet’ age-related macular degeneration). Despite these projections, and the effect COVID-19 has had on provision of eye health services, the response by the RCOphth and eye units across the UK is promising. Plans to increase funding, increase trainee numbers, implement innovative service redesigns (e.g., high-volume diagnostic and surgical centres in the community), and the greater use of digitally enabled service delivery, pioneered during this pandemic, highlights a roadmap for the future of ophthalmic care in the UK.7

Unfortunately, disruptions to ophthalmic care in low- and middle-income countries (LMICs) due to the pandemic have had significant consequences, with worrying prospects for recovery.

**COVID-19 AND VISION 2020**

In the international eye community, 2020 was a milestone year to celebrate the progress of the VISION 2020: The Right to Sight initiative, and the efforts towards alleviating the global burden of vision impairment and avoidable blindness. Disruption to existing eye health services in many LMICs during this pandemic have been profound, threatening the hard-fought gains of global ophthalmology.

As COVID-19 emerged, many countries redirected resources to manage outbreaks, suspending community-based programmes, often with no recourse to telemedicine as we have benefited from in the UK. Many countries enforced lockdowns, suspending outreach and school health programmes, stopping elective surgeries and encouraging patients to stay away from hospitals unless absolutely necessary.8,9 Interim World Health Organisation (WHO) guidance temporarily suspended mass drug administration campaigns and epidemiological studies, prolonging decades long efforts to eliminate diseases such as onchocerciasis and trachoma.10 Foreign aid missions such as the YWAM Medical Ship and ORBIS flying eye hospital were also affected, with temporary cessation of activity.11,12 Interruptions to mass drug administration campaigns, foreign aid, vaccination availability and nutrition programmes will only further worsen healthcare inequalities in vulnerable countries.

The WHO reports that at least 2.2 billion people worldwide suffer from a vision impairment or blindness, of which at least 1 billion is preventable.The burden of avoidable blindness is uneven, with 89% of vision impaired people living in LMICs.13 Two-thirds of the world’s ophthalmologists are located in just 13 countries.14 The lowest mean number of ophthalmologists is in sub-Saharan Africa. In high-income countries, a mean 32.2 ophthalmologists perform cataract surgery per million population, in sub-Saharan Africa only 1.14 ophthalmologists perform cataract surgery per million population (Figure 1).14,15 The WHO recommends a minimum of four ophthalmologists per million population, with each surgeon ideally supported by three to five mid-level personnel, including ophthalmic clinical officers and ophthalmic nurses.16,17 Sub-Saharan Africa has a lack of eye health resources, including healthcare workers, which is a significant contributing factor to the high prevalence of avoidable blindness.18 Developing an eye health workforce is a major focus of the Global Action Plan 2014-2019, the most recent action plan endorsed by WHO member states to build on the VISION 2020 initiative.

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**Figure 1. Number of ophthalmologists performing cataract surgery per million population in sub-Saharan African countries.** Adapted from Resnikoff S, Lansingh VC, Washburn L, et al. Estimated number of ophthalmologists worldwide (International Council of Ophthalmology update): will we meet the needs? *Br J Ophthalmol* 2020;104(4):588–592.

**INTERNATIONAL STRATEGY**

One of the objectives of the RCOphth Charter is to ‘further instruction and training in ophthalmology both in the United Kingdom and overseas’.19 A key international strategy to meet this goal is to increase support to members as they undertake international work. The RCOphth has recently endorsed the volunteering statement drawn up by the International Forum of the Academy of Medical Royal Colleges to support health professionals who wish to volunteer to improve health in developing countries, which includes encouraging a consistent approach to granting time out of training.20

Primarily there are two ways to work overseas, as an individual or by linking with an organisation. The VISION 2020 LINKS programme was established in 2004 and is designed to build the skills and capacity of eye institutions in LMICs. The programme links a training eye hospital in a LMIC with an NHS hospital or University in the UK, over a period of 3-5 years or longer if required. In the last 16 years the programme has seen 30 VISION 2020 LINKS established between eye care institutions in Africa, the Caribbean and Asia with eye departments in the UK.21 Many of these programmes benefited from funding from the Department for International Development (DFID), however in the wake of the economic strain the pandemic posed to the UK, recent cuts to international aid are likely to significantly impact funding for these programmes.22

There are many benefits of overseas work, well described by the RCOphth International Committee, and including: development of new skills, learning, life-time friendships, contribution to practice overseas, and appreciation for practice in the UK, helping to vitalise and sustain a career that could last for 35 years.19

**RECOMMENDATIONS**

In the RCOphth 2019 national trainee survey, two-thirds of trainees (66.4%) planned to do fellowships within or outside of the UK on completion of their training, with 29.6% of these posts outside of the UK.23 The ability to work flexibly was rated as ‘very important’ or ‘important’ by 80.6% of trainees, and whilst many choose not to take time out of programme, it was clear from the responses received that some are actively discouraged from doing so within their region. New changes to the Ophthalmic Specialist Training (OST) curriculum, coming into force in 2023, have the potential to offer greater flexibility in training, enabling some to obtain a Certificate of Completion of Training (CCT) in less time, over a minimum of five and a half years.24



**Figure 2. Proposed Training Pathway.** NTN: National Training Number; CCT: Certificate of Completion of Training.

Many trainees have ambitions to work overseas, and as discussed, the dearth of ophthalmologists in many LMICs has been exacerbated by this pandemic. There are many barriers to trainees undertaking overseas work, including availability of programmes, flexibility of training, and ability to obtain time out of programme (OOP). This report recommends the establishment of a training pathway, which mirrors the Integrated Academic Training (IAT) pathway, for trainees who wish to contribute to the development of eye health services in countries most affected by avoidable blindness (Figure 2). The pathway proposes a clinical fellowship similar to the Academic Clinical Fellowship (ACF), where 25% of the fellow’s time is dedicated to developing an application for a LINKS (or equivalent) programme, before taking time OOP. In the IAT pathway the period following an ACF would typically involve pursing a PhD, instead the OOP time here would be dedicated to working overseas to develop eye health services and would last between 6 months and 3 years. Following this, similar to a Clinical Lectureship on the IAT pathway, a trainee would return to spend 50% of their time in specialist clinical training and dedicate the other 50% to maintenance and development of LINKS (or equivalent) programmes. This post would continue until completion of clinical training.

Global eye health is reliant on frameworks of healthcare delivery that are sustainable over the long-term, and now more than ever we realise, must also be resistant to pandemic-level disruptions. The proposal outlined here offers trainees working in the NHS a structured opportunity to participate in overseas work to develop and maintain eye health services in countries most at need, contributing to the VISION 2020 goal of eliminating avoidable blindness. A goal which has been so profoundly affected by the COVID-19 pandemic.

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