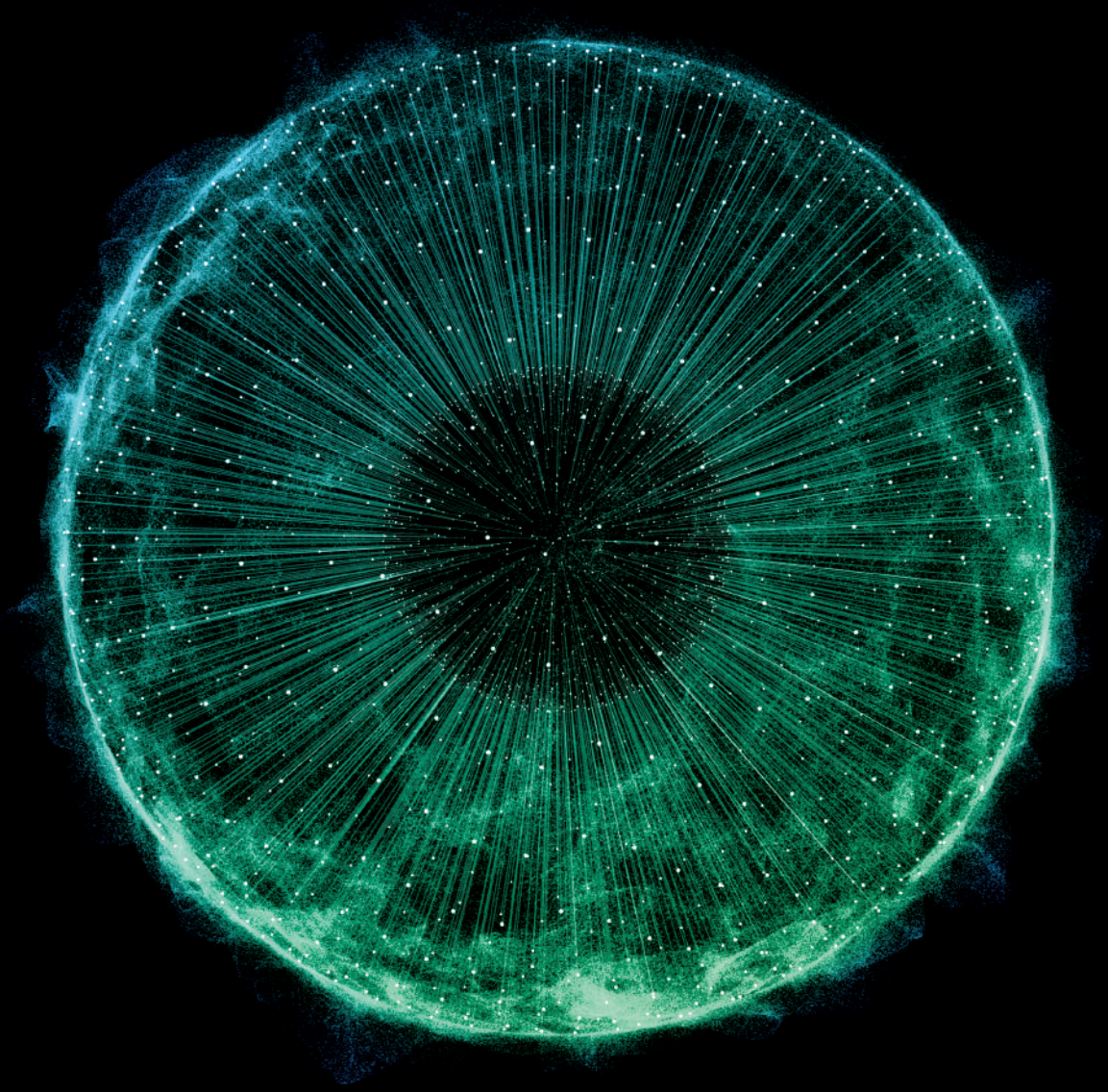

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LET'S RETHINK SURGERY TOGETHER

Rethinking cataract surgery post-COVID-19: an opportunity for change?

Introduction

The spread of COVID-19 across the globe has led to widespread disruption of non-emergency medical care, including ophthalmic procedures, and has enforced changes in the way we work and communicate. As we now begin 'black-starting' parts of the NHS and restarting ophthalmic procedures, this may present an opportunity not only to adjust to the new environment but also for a long-term evolution of services – complementing and accelerating existing initiatives for change.[1]

At times of uncertainty, capable leadership is more essential than ever. Bausch + Lomb therefore organised a meeting of leaders in ophthalmology from around the UK to discuss their experiences and recommendations for rethinking ophthalmic procedures in the post-COVID-19 era.

These recommendations can be summarised as the 'Four Ps': Patients, Protection, Pathways and Partnerships, covering patient and staff safety, efficient and appropriate pathways to treatment and supporting effective partnerships both within and beyond hospital institutions themselves.

"The *black start* is the process by which a power grid, when hit by an impromptu and total loss of power, or blackout, can be brought back to life"

https://www.power-technology.com/features/featureblack-start-how-do-you-restart-a-nuclear-power-station-when-the-grid-goes-off-4176366/

"Social isolation in itself is bad enough, but when you have social isolation with reduced vision, this can have a major impact on mental health, particularly for people who are living alone"

Gerard Ainsworth

"People with a visual impairment (VI) have an increased risk of depression; decreased mobility; and higher rates of poverty than in the general population... these factors have a detrimental impact on both mental and physical health... [and] may alone increase anxiety among people with VI in relation to being exposed to SARS-CoV-2"

Allen PM, Smith L. Eye 2020[4]

Patients

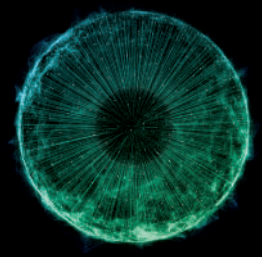
Adequate vision is essential to people's wellbeing, particularly given the increased levels of social isolation in the current environment. Impaired vision is linked to poorer mental health[2] and the risk of additional physical impacts such as trips and falls.[3] Restarting cataract surgery is therefore an urgent priority.

However, there is clear anxiety amongst patients about coming to hospital in the current environment, with many unwilling to attend despite direct encouragement from their doctors.

New recommendations[5] from the Royal College of Ophthalmologists specify that risks to the patient and to their family or carers, where appropriate, should be discussed before the patient comes to hospital. This discussion should include the measures being taken to reduce the risk of COVID-19 transmission, including social distancing measures, which may help to address these anxieties.

It is important to bear in mind that the patients who benefit most from ocular surgery are often the most frail. Ordinarily these people would have family or friends come with them to the hospital to support them: since this is no longer possible, strategies should be in place to ensure they still receive the support they need.

"We have only managed to persuade about 50% of patients to come to the hospital because the perception of risk for many patients is that they would rather sit at home than run the gauntlet of COVID" Louisa Wickham



Social distancing for patients and staff

Minimising patient and staff exposure time will help to reduce the risk of infection. There are a number of possible approaches that could help in this regard:

- 'Cataract surgery by appointment', following a one-in, one-out system and avoiding the use of waiting rooms where possible
- Optimisation of flow through buildings to set up a 'one-way' system (simpler for some estates than for others)
- Appropriate medication and careful planning may allow for reduced turnaround to minimise the time spent in the hospital environment – including discharge planning, to ensure patients are not waiting around at the end of their visits
- The use of technology may also help, allowing patients to be remotely alerted when the specialist is ready: mobile apps along these lines are already in use in the USA

Post-operatively, we may also need to consider how to minimise in-person interaction: could post-operative face-to-face follow-ups be a thing of the past? In some regions in the UK, such as in Cumbria, this approach has already been dropped in favour of patient-guided follow-up: patients are asked to get in touch if they experience any problems following surgery, with prompt assessment if they do reach out. This system has been in place for several years, with no problems reported.

Nevertheless, it will be essential to continue to collect outcomes data, since outcome comparisons across centres appear to reduce rates of complications. Thus, any patient-guided approach should also incorporate a strategy for collecting data on complications and poor refractive outcomes.

"This is a really interesting approach to how we might address our capacity issues, because the biggest problem we have now is turnaround"

Louisa Wickham

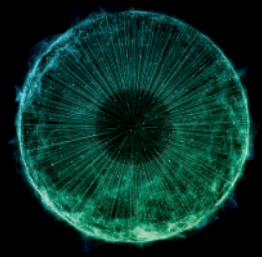
A role for bilateral cataract surgery?

Immediate sequential bilateral cataract surgery (ISBCS) has historically been discouraged partly for financial reasons, but also owing to concerns around the potential for complications. However, rates of endophthalmitis following ISBCS appear to be as low, if not lower, than for unilateral surgery[6] (potentially due to patient selection). ISBCS is an important consideration in the current situation, since it:

- Allows better use to be made of the limited capacity available
- Reduces patient exposure time and thus COVID-19-associated risk
- Reduces the exposure of surgical teams

Guidelines already exist,[7,8] to support this approach: after initial setup, which requires some significant changes, it is a relatively straightforward process. Patient selection is, however, critical: this procedure will not be suitable for everyone. Caution should be exercised, especially for patients with underlying conditions such as diabetes.

Financial concerns associated with ISBCS may be assuaged by moving to block contracts as opposed to payment by patient episode; the increased efficiency may also result in cost savings. If centres move to increased use of ISBCS, it will be key to ensure commissioners are on board and to have a system in place that works for all parties.



Protection of staff

Protection of patients should not be discussed without considering protection of staff, to avoid disease transmission via healthcare professionals as well as to ensure staff wellbeing and availability. Whether procedures are officially classed as aerosol-generating procedures (AGPs) or not, ophthalmic surgery requires a substantial amount of time spent near the nasopharynx region, potentially putting staff at risk of transmission. Complete elimination of risk is not possible, but there are important ways to minimise it.

Physical protection

If untested, every patient could be treated as though they are COVID-positive, since symptoms are not a reliable indicator. Additionally, viral load is potentially cumulative, particularly in the absence of robust patient testing.

Air exchange in theatre may not be sufficient to prevent airflow from the patient reaching the surgeon. Indeed, recent testing suggests that patients' breath may be directed straight into the surgical field, though it is not known whether this increases the risk of infection. Recent recommendations from the American Academy of Ophthalmologists[9] reflect these concerns. It is therefore essential that as a baseline, the most effective personal protective equipment (PPE) is available for individuals, should they want to use it.

However, it is the prerogative of individuals to deviate from high-level PPE if they feel they need to in order to work more effectively: PPE can be unwieldy and make it difficult to work under a microscope. Ultimately, individuals should be able to make decisions about the level of risk they are willing to tolerate.

Pragmatically, best-practice approaches regarding PPE may not always be possible: while there is now sufficient PPE for current levels of surgery, there is likely to be a struggle to accommodate services as they start to ramp up. It may therefore be worth considering a minimum level of protection, which could be as simple as a surgical mask – always provided the option is there for staff to use higher levels of PPE should they wish. As surgeons' decisions may have a disproportionate influence on the behaviour of other staff, consideration of those who may feel less able to voice their fears and concerns is essential.

Additional approaches outside of wearable protection may help further reduce transmission risk. Leading specialists, including Louisa Wickham (Moorfields Eye Hospital NHS Foundation Trust) and Aman Chandra (Southend University Hospitals NHS Foundation Trust), have designed a drape to fit around the microscope and its user during ophthalmology procedures, to help reduce the possibility of aerosol transmission. This idea has been picked up and developed swiftly by Bausch + Lomb, with development well underway for large-scale production. The drape is designed to form a 'hood': an extra barrier to the patient's and specialist's aerosol. For phacoemulsification surgery, where work is conducted individually and almost all work is intraocular, this could be a valuable addition to ophthalmic equipment at minimal cost and minimal interference with procedures.

In hard-hit parts of Italy, teams are split into 'cold' and 'hot' groups: staff at higher risk of developing serious disease are in a 'cold' team seeing lower-risk patients, whereas higher-risk ('hot') patients are seen by staff without underlying health conditions. All staff are nevertheless in full PPE. A similar approach is now being implemented in Mid and South Essex, with the 'hot' site taking urgent cases and the 'cold' site testing and isolating patients.

"Whether it's an AGP or not, we do spend an element of time in the area of the nasopharynx, and the aerosol from the patient's airway can drift upwards"

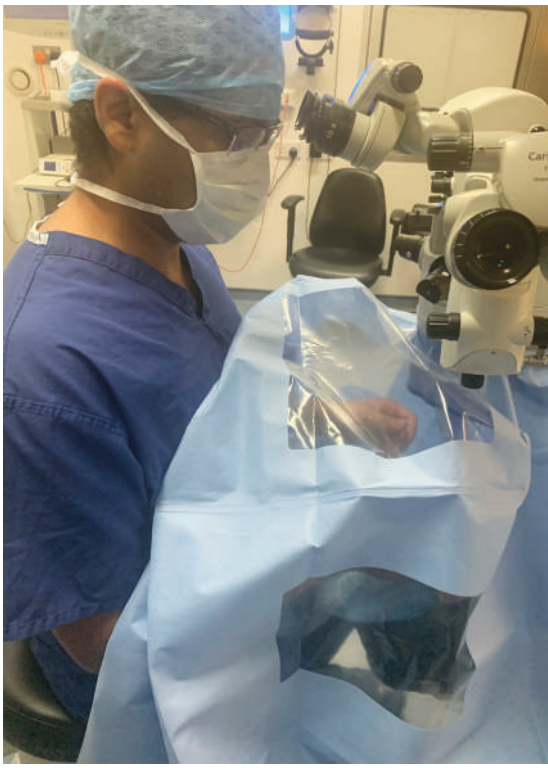
Aman Chandra

Psychological wellbeing

The psychological impact of COVID-19 is far-reaching and should not be underestimated. In many cases, both patients and staff are frightened, with particular concerns in the BAME community since the publication of mortality statistics.[10] Concerns around ethnicity and infection may be limiting the roles staff are willing or enabled to play in some areas, which may not only set back the push for equality but also cause significant staffing issues in the NHS.

As staff who were redeployed begin to be repatriated to eyecare, their debriefing will need to be carefully managed. They will need support and possibly refresher training as they take up their roles again. Some are already indicating that they would prefer to stay in the departments to which they were redeployed.

To manage all these considerations, effective leadership is essential. Adequate protection for staff must be ensured, and sustainable approaches implemented. With around 400,000 cataract operations per year in the UK,[11] is it feasible for all staff involved to have full FFP3 protection for every procedure? If not, a plan must be made for an alternative approach.



"We already knew that the old model of eye-care, of 1 on 1 across a slit lamp, was not fit for purpose in the 21st century"

Laura Crawley

"We have to remember that we do have to train our future surgeons as well"

Bernard Chang

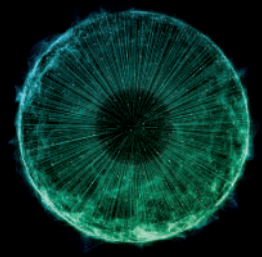
Pathways

The current situation presents a rare opportunity for transformational change and resetting approaches that would benefit from improvement. Some of these changes were already being implemented – but we are presented with the chance for a real acceleration.

Managing workload

Workload and turnaround are major challenges in the COVID-19 era. Requirements for deep-cleaning between procedures, limited staff numbers (often running at 50%) and even reduced space mean that fewer patients will be seen and workload will still be high: there is the potential for exponential growth of waiting lists even as services resume. It's likely that staff will need to work 6-day weeks to manage the workload – something that has already begun, but is unlikely to be sustainable in the long term.

The new Royal College of Ophthalmologists recommendations[5] include strategies for addressing these issues, including list planning, ensuring more complex patients are considered and prioritised appropriately. List planning also presents the opportunity to consider whether some patients may be suitable for trainees: lack of capacity is currently limiting the amount of hands-on ophthalmic experience open to trainees, which could lead to issues in the future.



Reducing waiting lists

We have a critical window of opportunity to address waiting lists prior to a potential second peak of COVID-19. Important questions must be asked around prioritisation and levels of need: a second peak of COVID-19 could further delay essential treatment for patients whose quality of life and ability to work are materially affected by their ocular conditions.

As well as prioritising patients for procedures, reviewing the number attending in-person follow-ups could further reduce waiting lists. Virtual clinics, where possible, could free up more capacity for surgical procedures. The reduction in bureaucracy during the COVID-19 peak was refreshing, and may indicate that this level of red tape is not truly necessary: finding ways to keep unnecessary bureaucracy down will be a key consideration in the coming months.

"We're going to have to do twice the work just to stay still"

Colin Vize

Role for technology in enhancing internal communication

Teams across the country have benefited from using virtual meeting platforms, supporting timely dissemination of information and access to all levels of the command structure. This also meant those consultants shielding at home were able to continue providing their valuable experience and advice.

Long-standing cultural approaches have changed quickly – can we maintain this in the long term? Technology may, perhaps counterintuitively, provide the added benefit of enabling more frequent meetings and discussions with less disruption to clinical work, and support with the management of workload pressures.

"I think we've moved transformation agendas further in the past four weeks than we have in six years of trying [previously]"

Louisa Wickham

Role for technology in delivering care

Telemedicine has long been heralded as the future of healthcare,[12,13] and its benefits have been thrown into sharp relief by the pandemic. Where historically patients have wanted in-person examinations and may have resisted change, they are now more open to virtual approaches – which present the added bonus of improved efficiency.

Remote pre-assessment can ensure patients are only brought into the hospital if they want to go through with surgery. Digital enhanced consent allows patients to discuss the procedure on a high-quality video call with the specialist and with family members, receiving an explanation not only of the risks and benefits of the surgery itself, but also of the risks of COVID-19 infection. Some centres are now setting ambitious targets for referral conversion as patients are better informed in advance.

In addition, technology can make the process of referral itself smoother. Three-way consultations allow ocular imagery to be shared between specialists, so that the image is referred through the pathway rather than the patient, minimising in-person interaction. This process is already widely used in Scotland.

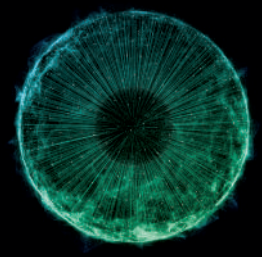
Failsafe officers and risk rating

Failsafe officers are recommended for any pathway redesign, if the centre does not already have them in place.[14] A specially-trained team can assess the risks around delays to procedures, ensuring decisions and prioritisation is informed. They not only transform services but allow for bidirectional communication around managing patient risk.

In short, there is no one-size-fits-all approach to pathway redesign. Trusts need to look at their own pathways and redesign them in a way that works best for their situation, with priority, as always, being given to safety.

"If you have a cataract patient come in for biometry and pre-assessment, there should be a 95% conversion rate on all referrals"

Laura Crawley



"I think communication is vital in order to ensure that everybody maintains good relationships throughout a sector-wide recovery"

Laura Crawley

Partnership

Collaborative working within institutions, between healthcare providers and professionals, and beyond is more critical than ever to make the most of the capacity available to us and to effectively address the issues of safety and workload.

Partnerships with management

Clinical leadership interaction with management is essential to ensure timely and appropriate decision making. Better working relationships have appeared to help services adapt more quickly and effectively already, and will be equally critical to effecting meaningful, long-lasting change.

Partnerships with other healthcare professionals

Communication and maintaining relationships between hospitals is central to a sustainable resumption of services. In London, sector-wide recovery is being targeted, with patient tracking lists being prioritised across (rather than within) providers. Barriers between trusts in some areas will need to be broken down via good communication. In addition, some trusts will have taken on more complex cases than others during the first peak of the pandemic, whether intentionally or through necessity, and this has the potential to stretch or exceed capacity: better communication may help to ensure trusts can share these challenging cases as well as meeting the needs of their local populations.

Demand for multifunctional equipment is likely to soar, and securing access will be a key priority for many trusts in the coming months. Improving working relationships with local optometrists may help to ensure access to this equipment, which is already present in many optometry clinics, and may also reduce the need for patients to be in the hospital environment.

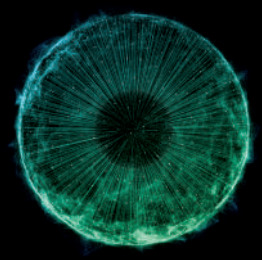
"We're going to have to deliver training and teaching in telemedicine, not just sitting in a lecture theatre... Simulator training will be critical"

Laura Crawley

Partnerships with industry

Industry support will be needed in a range of areas and may help support many of the changes discussed above, such as provision of high-quality digital platforms for patient information and informed consent. Given the ongoing need for technical support on surgical instruments and machines, the availability of medical device representatives will be no less important in the coming months.

Training is one area where industry could play a particularly critical role. There is a need to ensure we develop our surgeons of the future: training is easily overlooked given the current burdens on the system in terms of service delivery itself. Without trainees, who were largely redeployed during the initial pandemic peak, it is unlikely that the NHS could have coped, but with a lack of space and capacity, there is a risk that training may fall by the wayside. Industry partners may be able to provide not only online learning packages, but even simulation labs to allow trainees to build their experience.



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Conclusions and looking to the future

The wide-reaching impact of COVID-19 presents a window of opportunity for implementing improvements to ophthalmic care delivery and efficiency, which could have enduring benefits for patients and staff. Forward-looking guidance is already recommending a transformation in the care of patients across the NHS.[15]

At all times, adequate protection is critical. While protective equipment is a finite resource, baseline standards must be high and all precautions taken to minimise the risk of infection, particularly given the number of unknowns around COVID-19 transmission.

Telemedicine and other initiatives to minimise person-to-person contact are key to consider in order to enhance staff and patient safety. In particular, now may be the time to consider the benefits of immediate sequential bilateral cataract surgery, not only in terms of cost and resource utilisation, but also in risk minimisation to patients and staff from reduced exposure.

While delivery of healthcare is and must be the central focus in the coming weeks and months, we must be careful not to overlook the needs of our ophthalmic surgeons of the future. The NHS response to the COVID-19 pandemic relied heavily on the redeployment of trainees: we should not only acknowledge their willingness and ability to move temporarily into completely different specialties, but also provide them with sufficient training and teaching opportunities – including hands-on experience where possible.

Finally, communication and relationship building across specialties, trusts and sectors will be critical in ensuring 'sector-wide recovery' – enabling patients across the country to benefit from resumption of services. Taking a more integrated approach to regional pathways, with enhanced collaboration both between trusts and between primary and secondary care, may provide durable benefits for both efficiency and patient care.

"Although nobody wants to live through a pandemic like COVID, it has given us a big opportunity to make some proper changes... we've got a chance to redesign eyecare to what we feel is best for patients and for us."

Bernard Chang

Panel members

- Mr Colin Vize, Hull University Teaching Hospitals NHS Trust (Moderator)
- Ms Louisa Wickham, Moorfields Eye Hospital NHS Foundation Trust
- Professor Bernard Chang, Leeds Teaching Hospitals NHS Trust
- Ms Laura Crawley, Imperial College Healthcare NHS Trust
- Mr Aman Chandra, Southend University Hospitals NHS Foundation Trust
- Mr Gerard Ainsworth, North Cumbria Integrated Care NHS Foundation Trust

References

1. NHS England: Elective Care Transformation Programme, 2019. Transforming Elective Care Services: Ophthalmology. Available at: https://www.england.nhs.uk/publication/transforming-elective-care-services-ophthalmology/ (accessed June 2020);
2. Ishii K, et al. Am J Ophthalmol 2008;146:404–409;
3. Brannan S, et al. Br J Ophthalmol 2003;87:560–562;
4. Allen PM, Smith L. Eye 2020; doi: 10.1038/s41433-020-0917-x (epub ahead of print);
5. Royal College of Ophthalmologists. Guidance on restoring ophthalmology services. Available at: https://www.rcophth.ac.uk/about/rcophth-covid-19-response/rcophth-guidance-on-restoring-ophthalmology-services/ (accessed June 2020);
6. Arshinoff SA, Bastianelli PA. J Cataract Refract Surg 2011;37:2105–2114;
7. Arshinoff S, et al. International Society of Bilateral Cataract Surgeons, 2009. Available at: http://www.isbcs.org/wp-content/uploads/2011/03/2010-07-20-FINAL-ISBCS-SBCS-suggestions-from-ESCRS-Barcelona.pdf (accessed June 2020);
8. NICE guideline, 2017: Cataracts in adults: management. Available at: https://www.nice.org.uk/guidance/ng77 (accessed June 2020);
9. American Academy of Ophthalmology. Special considerations for ophthalmic surgery during the COVID-19 pandemic. June 2020. Available at: https://www.aao.org/headline/special-considerations-ophthalmic-surgery-during-c (accessed June 2020);
10. Office for National Statistics. Coronavirus (COVID-19) related deaths by ethnic group, England and Wales: 2 March 2020 to 10 April 2020. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/coronavirusrelateddeathsbyethnicgroupenglandandwalesmethodology (accessed June 2020)
11. Royal College of Ophthalmologists. National Ophthalmology Database Audit: Key Findings Summary 2017–2018. Available at: https://www.nodaudit.org.uk/u/docs/20/hfsjzvezyj/Key%20Findings%20Summary%202019.pdf (accessed June 2020);
12. Heinzelmann PJ, et al. J Telemed Telecare 2005;11:384–390;
13. Cleveland Clinic. Consult QD. The future of telemedicine (and what's in the way). Available at: https://consultqd.clevelandclinic.org/the-future-of-telemedicine-and-whats-in-the-way/ (accessed June 2020);
14. NHS England. Elective Care High Impact Interventions: Ophthalmology Specification. May 2018 v2.
15. NHS Providers. Confronting coronavirus in the NHS. Available at: https://nhsproviders.org/confronting-coronavirus-in-the-nhs/5-what-next-the-future (accessed June 2020).

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