How can gastroenterology training thrive in a post-COVID world?

Michael FitzPatrick, Jennifer Clough, Philip Harvey, Elizabeth Ratcliffe

GASTROENTEROLOGY TRAINING LANDSCAPE PRE-COVID

Gastroenterology training is understandably arduous. The UK Gastroenterology curriculum spans diseases of the liver, luminal gastrointestinal (GI) tract and biliary tract. Trainees must complete periods of specialty training and hepatology alongside the general internal medicine (GIM) curriculum. Certification in gastroscopy is mandatory, and colonoscopists are expected to achieve competence. Developing subspecialty areas of gastroenterology become increasingly complex, trainees must invest more time to gain competence. Developing sub-specialty expertise now informally mandates out of programme training.

Time committed to GIM is increasing, which deleteriously affects specialty training time. GIM rota gaps are substantial, with key examples summarised in table 1. Reduced endoscopy training is a particular challenge internationally, and will disproportionately affect junior trainees who cannot work under remote supervision.

As long as SARS-CoV-2 transmission and the requirement to divide COVID-19 and non-COVID work remain, gastroenterology training cannot return to its pre-pandemic format. Potential further waves of COVID-19 bring additional uncertainty. Ongoing trainee throughput is essential, given the need for consultant workforce expansion. Rigorous planning is required to mitigate the predicted specialty training time and continuity. Imminent reforms following the Shape of Training report will reduce Gastroenterology training from five to 4 years, further compounding these problems.

Our increasingly complex craft specialty and reduced training time would inevitably have mandated change. The need to mitigate the impact of the COVID-19 pandemic must now catalyse that change.

TRAINING ISSUES ARISING DURING THE COVID-19 ERA

The COVID-19 pandemic has necessitated dramatic restructuring of the workforce, with gastroenterology trainees widely redeployed and elective activity reduced. The impact on specialty training is substantial, with key examples summarised in table 1. Reduced endoscopy training is a particular challenge internationally, and will disproportionately affect junior trainees who cannot work under remote supervision.

The adverse impact to trainees who are shielding for health reasons is particularly concerning. This group includes pregnant trainees and those with chronic illness, for whom face-to-face clinical activity may be limited for the foreseeable future. Currently, remote training and opportunities for workplace-based assessments (WPBAs) to demonstrate progression are limited. The training needs of this cohort must be prioritised to ensure equity.

As long as SARS-CoV-2 transmission and the requirement to divide COVID-19 and non-COVID work remain, gastroenterology training cannot return to its previous format. Potential further waves of COVID-19 bring additional uncertainty. Ongoing trainee throughput is essential, given the need for consultant workforce expansion. Rigorous planning is required to mitigate the predicted specialty training time and continuity. Imminent reforms following the Shape of Training report will reduce Gastroenterology training from five to 4 years, further compounding these problems.

The adverse impact to trainees who are shielding for health reasons is particularly concerning. This group includes pregnant trainees and those with chronic illness, for whom face-to-face clinical activity may be limited for the foreseeable future. Currently, remote training and opportunities for workplace-based assessments (WPBAs) to demonstrate progression are limited. The training needs of this cohort must be prioritised to ensure equity.

As long as SARS-CoV-2 transmission and the requirement to divide COVID-19 and non-COVID work remain, gastroenterology training cannot return to its previous format. Potential further waves of COVID-19 bring additional uncertainty. Ongoing trainee throughput is essential, given the need for consultant workforce expansion. Rigorous planning is required to mitigate the predicted
Avoid prolongation of training. Even if a future vaccine on diagnostic endoscopy training for junior trainees, to assess trainees’ experience and needs, to guide varied substantially. Concerted efforts are now needed.

**FUTURE OF GASTROENTEROLOGY TRAINING**

Access to endoscopy training during the pandemic has varied substantially. Concerted efforts are now needed to assess trainees’ experience and needs, to guide allocation of limited training resources. Where endoscopic training opportunities are pressured, regional processes may allow trainees access at nearby trusts or within the private sector. This approach should focus on diagnostic endoscopy training for junior trainees, therapeutic experience for those more senior and targeted support for particular interests, such as endoscopic retrograde cholangiopancreatography (ERCP). Opportunities for less than full time trainees need to be protected. Concerns have been raised about rationing of personal protective equipment (PPE) limiting staff numbers in endoscopy, but PPE provision for training should be considered an investment in future endoscopy services.

Upper GI endoscopy, endoscopic ultrasound and ERCP are aerosol generating procedures, requiring risk assessments for COVID-19 higher risk groups. If in-person training is not possible, high-quality alternative training methods must be prioritised. Simulation...
training can aid the acquisition of technical procedural skills, accelerating progression without patient contact. However, provision of endoscopy simulation equipment and faculty is sparse. All facilities training gastroenterologists should have access to simulation equipment, and ensure trainees have the time and supervision to profit from it. Immersive, high-volume training, such as ‘Sprint’ courses, allow rapid progression in technical skills and should be rolled out universally early in training.

As trainees progress, non-endoscopic technical skills and complex decision-making become the training focus. Simulation, video endoscopy teaching and polyp multidisciplinary team meetings (MDTs), could be used to develop these skills. Such innovation has already begun to deliver streamed live endoscopy courses and teaching sessions. These provide opportunities for international collaboration and could be a resource for years to come.

The management of UGIB, a core part of the consultant gastroenterologist’s role, presents particular technical and decision-making challenges. Despite this, formal training in UGIB remains variable, except where trainees staff OOH UGIB emergency rotas. We recommend all trainees have at least 1 year on an OOH UGIB rota, alongside appropriate courses and video learning materials.

The UK’s Joint Advisory Group on GI Endoscopy (JAG) unit accreditation and the rigorous evidence-based criteria for endoscopy training are international exemplars of excellence. Key performance indicators that correlate with patient outcomes are an important goal of endoscopy training. The recent temporary relaxation of certification time periods is a welcome step towards flexibility. Nationally, provision for key courses, such as basic endoscopy courses, must ensure capacity is sufficient for trainees to attend early in training.

Telemedicine clinics were rapidly established at many hospitals during the COVID-19 epidemic, but these pose challenges. Direct supervision for junior trainees is difficult with conventional telephone consultations. However, virtual consultation platforms allowing MDT clinics could provide excellent opportunities for supervision and training. With trainees and trainees on the same call, WPBAs could be easily conducted. Although trainees typically prefer in-person supervision, video assessment has been demonstrated to be an appropriate method of assessing performance. Telemedicine has been shown to improve access to specialist care for rural or hard-to-reach patients and their families, and is already in use by gastroenterologists in the UK. Virtual clinics can safely reduce patient travel time and costs, as well as improving compliance and satisfaction. Embedding telemedicine clinics in routine hospital care is likely, therefore, to benefit both trainees and patients.

Trainees require sub-specialty exposure to complex nutrition, hepatology and IBD. Many have missed planned rotations due to COVID-19 redeployment, and providing new opportunities for these trainees must be a priority so as not to impede their progression. Embracing novel technological platforms for sub-specialty learning provides an opportunity to significantly improve training. Virtual ‘ward rounds’, pioneered at some medical schools, could provide exposure to sub-specialist inpatient care. Sub-specialty services, particularly those only available in tertiary centres such as paediatric-to-adult transition, neuro-gastroenterology and specialist cancer services, could provide remote access for regional trainees. The discussion of complex cases and interventions in such MDTs provides vital educational opportunities, and the normalisation of video-conferencing during COVID-19 could allow such learning opportunities to be delivered remotely, including between trusts in regional networks. Furthermore, content from such meetings could also be recorded, anonymised and developed into online learning resources for trainees, aligned to curriculum requirements. Specialty societies, such as the British Society of Gastroenterology (BSG), British Association for the Study of the Liver (BASL) and British Association for Parenteral and Enteral Nutrition (BAPEN), could support this work by collating, hosting and overcoming governance challenges to such content.

Innovation in training approaches will require investment, both of money and of trainer time. However, the COVID-19 pandemic has necessitated substantial organisational investment in teleconferencing infrastructure, reducing future barriers to change. Simulation in particular requires considerable resource. Health Education England have already supported increased simulation in core medical training, and a national strategy for simulation more widely in training is underway.

High-quality gastroenterology training takes time, a commodity in short supply, particularly with planned Shape of Training reforms. GIM work is the greatest barrier to gastroenterology training, and trainees’ time must be protected from the increasing service demands of the medical registrar rota, while meeting their GIM learning requirements. Models offering ‘ring-fenced’ gastroenterology training could include short full-time GIM attachments (eg, limited to a total of 12 months in a 4-year programme), with OOH UGIB and specialty advice rotas undertaken in the remaining training years. Physician specialties, including gastroenterology, are underdoctored, and additional recruitment should be considered, either with formal training numbers, or locally employed doctors training towards a Certificate of Eligibility for Specialist Registration.
TRAINING MATTERS

‘OUT OF ADVERSITY COMES OPPORTUNITY’

Even before the appearance of an international pandemic, gastroenterology training was facing a wicked series of challenges, with trainees struggling to acquire endoscopic and specialist skills, worrying levels of burnout and the prospect of an imminent reduction in training duration. While COVID-19 may be the ‘straw that breaks the camel’s back’ of gastroenterology training, there were substantial pre-existing problems.

However, this challenge provides an opportunity to review gastroenterology training, and fundamentally shift training to a model that is smarter, more joined-up and focused on specific training goals, while prioritising trainees’ well-being. We must bring 21st century technology into training. Such changes need to be made collaboratively with trainees, to ensure all have the opportunities and experiences they need. Gastroenterology can, and should, become an exemplar of the opportunities and experiences they need. Gastroenterology (includes sub-specialty of hepatology). Available: https://www.jrcp.org.uk/specialties/gastroenterology-includes-sub-speciality-hepatology [Accessed 15 Jun 2020].

REFERENCES
1 JRCPTB. Gastroenterology (includes sub-specialty of hepatology). Available: https://www.jrcp.org.uk/specialties/gastroenterology-includes-sub-speciality-hepatology [Accessed 15 Jun 2020].
2 Royal College of Physicians. Focus on physicians: 2018–19 census (UK consultants and higher specialty trainees). Available: https://www.rcplondon.ac.uk/projects/outputs/focus-physicians-2018-19-census-uk-consultants-and-higher-specialty-trainees [Accessed 15 Jun 2020].
3 Clough J, FitzPatrick M, Harvey P et al. Shape of training review: an impact assessment for UK gastroenterology trainees. Frontline Gastroenterol 2019;10:356–63.
4 Biswas S, Alrubaiy L, China L, et al. Trends in UK endoscopy training in the BSG trainees’ national survey and strategic planning for the future. Frontline Gastroenterol 2017;9:200–7.
5 Shape of Training Review Board. Securing the future of excellent patient care, 2013. Available: https://www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf [Accessed 9 Nov 2018].
6 Pawlak KM, Kral J, Khan R, et al. Impact of COVID-19 on endoscopy trainees: an international survey. Gastrointest Endosc 2020. doi:10.1016/j.gie.2020.06.010. [Epub ahead of print: 11 Jun 2020].
7 Rutter C. British Society of gastroenterology workforce report, 2019.
8 Rees CJ, East JE, Oppong K, et al. Restarting gastrointestinal endoscopy in the deceleration and early recovery phases of COVID-19 pandemic: guidance from the British Society of gastroenterology. Clin Med 2020;20:352–8.
9 The OpenSAFE Collaborative, Walker AJ, Williamson E, et al. OpenSAFE: factors associated with COVID-19-related Hospital death in the linked electronic health records of 17 million adult NHS patients. MedRxiv 2020.
10 Cook T, Kursunovic E SL. Exclusive: deaths of NHS staff from covid-19 analysed. Health Serv J 2020.
11 Siau K, Hodson J, Neville P, et al. Impact of a simulation-based induction programme in gastroscopy on trainee outcomes and learning curves. World J Gastrointest Endosc 2020;12:98–110.
12 Ravindran S, Thomas-Gibson S, Murray S, et al. Improving safety and reducing error in endoscopy: simulation training in human factors. Frontline Gastroenterol 2019;10:160–6.
13 Segal J, Siau K, Kanagasundaram C, et al. Training in endotherapy for acute upper gastrointestinal bleeding: a UK-wide gastroenterology trainee survey. Frontline Gastroenterol 2020;fgastro-2019-101345.
14 Siau K, Green JT, Hawkes ND, et al. Impact of the joint Advisory group on gastrointestinal endoscopy (JAG) on endoscopy services in the UK and beyond. Frontline Gastroenterol 2019;10:fgastro-2018-100969.
15 Rees CJ, Thomas-Gibson S, Rutter MD, et al. UK key performance indicators and quality assurance standards for colonoscopy. Gut 2016;65:1923–9.
16 JAG. JAG training recovery of training in gastrointestinal endoscopy, 2020. Available: www.thejag.org.uk/support [Accessed 20 Jul 2020].
17 Kramer NM, Demaerschalk BM. A novel application of telenurology: robotic telepresence in supervision of Neurology trainees. Telemed J E Health 2014;20:1087–92.
18 Moore AM, Carter NH, Wagner JF, et al. Web-Based video assessments of operative performance for remote Telementoring. Surg Technol Int 2017;30:25–30.
19 Ruf B, Jenkinson P, Armour D, et al. Videoconference clinics improve efficiency of inflammatory bowel disease care in a remote and rural setting. J Telemed Telecare 2019;24:1357633X1984928.
20 Helsel BC, Williams JE, Lawson K, et al. Telemedicine and mobile health technology are effective in the management of digestive diseases: a systematic review. Dig Dis Sci 2018;63:1392–408.
21 Health Education England. Simulation. Available: https://www.hee.nhs.uk/our-work/simulation [Accessed 20 Jul 2020].
22 BSG. Endoscopy activity and COVID-19: BSG and JAG guidance. Available: https://www.bsg.org.uk/covid-19-advice/endoscopy-activity-and-covid-19-bsg-and-jag-guidance [Accessed 15 Jun 2020].