

CORRESPONDENCE



Trainee research network (TRN): a potential global model for promoting research training and outputs among trainees

© Crown 2022

Eye; <https://doi.org/10.1038/s41433-022-02060-z>

TO THE EDITOR:

We read with interest the paper published by Zamorano-Martin et al. [1], and we are in complete agreement on the importance and need for research training during ophthalmology traineeship. Several studies have shown that healthcare organisations engaged with more clinical research activities have better patient outcomes [2, 3]. The ability to critically appraise published literature serves as an essential skill for practicing evidence-based medicine, which can be acquired through research training, for example the free online Cochrane Eyes and Vision course [4]. That said, participation in research among ophthalmology trainees is desirable yet not mandatory during ophthalmic specialist training in the United Kingdom (UK) and many other countries.

Lack of time, insufficient research skills and lack of mentor support are the most common impediments to research participation among trainees across different specialties and grades [5, 6]. To address this, the Ophthalmology Specialty Group of the National Institute for Health Research (NIHR) Clinical Research Network established 15 local ophthalmic trainee research networks (TRNs), aligned geographically to the NIHR

clinical research networks [7, 8], across England in 2016–2017. We have previously highlighted a strong positive attitude among ophthalmology trainees towards the establishment of TRN [9], and have demonstrated its potential as an effective model for promoting research experience, training, outputs, and collaborations among the ophthalmology trainees (Fig. 1) [10–12].

Compared to the general surgery specialties [13], the research productivity and potential of TRN within ophthalmology remains to be fully explored and utilised. Already however, several of the Ophthalmology TRNs have conducted and published a number of observational studies [10–12]. Among all TRNs, the surgical trainee-led West Midlands Research Collaborative (WMRC) is by far the most established model (<http://wmresearch.org.uk/>). The successful completion of several multicentre, randomised controlled trials, including the ROSSINI Trial and the DREAMS Trial, have showcased the potentials of TRN in contributing to high-impact research outputs and shaping clinical practice [14, 15]. More recently, COVIDSurg and COVIDSurg-Cancer, which included WMRC, were established by an international group of surgeons and anaesthetists from ~90 countries to gather real-world data on various surgical aspects related to COVID-19 pandemic [16]. Their ongoing success has certainly served as a role model and inspiration for many other TRNs in the UK (Table 1).

Based on our experience and many other successful examples demonstrated within and beyond ophthalmology, we believe that TRN is the way forward in effectively promoting research training,

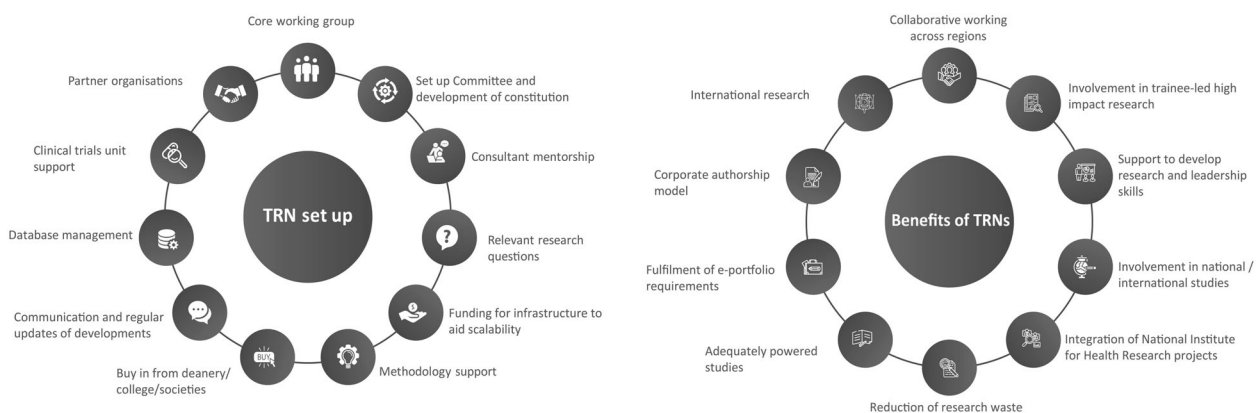


Fig. 1 Set up of trainee research network (TRN) and its benefits. Infographics highlighting the essential workforce, resources and support required to set up a trainee research network (TRN), and the benefits that can be gained through the network.





Received: 22 March 2022 Revised: 23 March 2022 Accepted: 1 April 2022
Published online: 14 April 2022

Table 1. A tabulated summary of trainee research networks (TRNs) in the UK. Information were gathered from TRNs websites and PubMed (this is not an exhaustive list).

Name of TRN	Specialty	No. of trainees	No. of Publications	Type of studies involved	Key topics
North East Trainee Research in Ophthalmology Network (NETRION)	Ophthalmology	20–30	4	Observational cross-sectional study, QBS	Management of posterior capsule rupture among trainees; Research attitude and barrier among trainees
Ophthalmology Trainee Clinical Trial Network (OCTN) https://ophthalmologytrials.net/	Ophthalmology	30–40	1	QBS	Anti-VEGF treatment delivery in UK
Ophthalmology Trainee Clinical Research Network	Ophthalmology	>200	1	QBS	National survey for trainee in managing posterior capsular rupture
West Midlands Collaborative Ophthalmology Network for Clinical Effectiveness & Research by Trainees (WM CONCERT)	Ophthalmology	~20	1	Lab-based experimental studies	DNA sequencing to detect pathogen in microbial keratitis
Eastern Region Trainee Research Network	Ophthalmology	~20	1	Observational cross-sectional study, QBS	Patient Outcome & Experience Measures in Glaucoma; Ocular Surface Disease in Glaucoma
West Midlands Research Collaborative (WMRC) http://wmresearch.org.uk/	General Surgery	>200	54	RCTs, SR-MA observational cohort studies,	ROSSINI Trial, DREAMS Trial, Surgery during COVID-19 period, Safety and Outcome of Appendicectomy, Topics around cholecystectomy
British Neurosurgical Trainee Research Collaborative (BNTRC) https://www.bntrc.org.uk/	Neurosurgery	>200	28	RCTs, SR-MA, observational cohort studies, and cross-sectional studies	Dexamethasone for chronic subdural hematoma trial, Trainee research collaborative, Chiari 1 study, National referral pathway for cauda equina
UK ENT Trainee Research Network (INTEGRATE) https://entintegrate.co.uk/	Otorhinolaryngology	>200	17	SR-MA, cohort studies	Nasal Packs for epistaxis, Epistaxis and mortality, Head and neck cancer care, Trainee research collaborative, Otitis externa outcome
Paediatric Surgical Trainees Research Network (PSTRN) https://www.pstrnuk.org/	Paediatric Surgery	>200	7	RCTs, SR-MA, observational cohort studies	Trainee research network, Appendicectomy outcome in different hospitals, RIFT study
The Orthopaedic Trainee Research Collaborative (CORNET Research) https://sites.google.com/mhrac.uk/cornet-research/home	Orthopaedic Surgery	>200	5	RCTs, observational cohort study	UK Frozen Shoulder Trial, SWIFFT, White FOUR, White 3 HEMI
Cardiothoracic Trainees Research Collaborative	Cardiothoracic Surgery	20–30	2	SR, QBS	Conduit choice in CABG, Suction to chest drain following lobectomy
Scottish Orthopaedic Research Collaborative (SCORE) https://www.scoreortho.org/	Orthopaedic Surgery	20–30	2	Prospective cohort study	COVID effect on orthopaedic trauma/cycling injuries
Wessex Surgical Trainee Research Collaborative https://www.wessexsurgery.com/	General Surgery	50–100	2	Observational cohort studies	Acute pancreatitis, Sarcopenia and myosteatosis after emergency laparotomy
Northern Surgical Trainees Research Association (NoSTRA) https://www.nostrasurgery.com/	General Surgery	20–30	2	Observational cohort studies	Perioperative analgesia strategies in elective laparoscopic colorectal surgery (LapCoGesc study)

QBS Questionnaire-based survey, RCT Randomised controlled trial, SR-MA Systematic review and meta-analysis.

engagement and scholarly outputs among medical and surgical trainees globally.

Zun Zheng Ong ¹, Christin Henein^{2,3}, Andrew J. Swampillai⁴, Laura Maubon ⁵, Rupert R. A. Bourne ^{6,7,8} and Darren S. J. Ting ^{1,9}✉

¹Department of Ophthalmology, Queen's Medical Centre, Nottingham, UK. ²Institute of Ophthalmology, University College London, London, UK. ³National Institute for Health Research (NIHR) Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, UK. ⁴West of England Eye Unit, Royal Devon & Exeter NHS Foundation Trust, Exeter, Devon, UK. ⁵Department of Ophthalmology, St. Thomas Hospital, London, UK. ⁶Vision & Eye Research Institute, School of Medicine, Anglia Ruskin University, Cambridge, UK. ⁷Department of Ophthalmology, Cambridge University Hospitals, Cambridge, UK. ⁸National Institute for Health Research (NIHR) Clinical Research Network, Cambridge, UK. ⁹Academic Ophthalmology, School of Medicine, University of Nottingham, Nottingham, UK. ✉email: ting.darren@gmail.com

DATA AVAILABILITY

All data generated and analysed are included in this published article.

REFERENCES

- Zamorano-Martin F, Rachwani-Anil R, Garcia-Lorente M, Rocha-de-Lossada C. Research in ophthalmology during traineeship: is it important? *Eye (Lond)*. 2021;35:2915–6.
- Downing A, Morris EJ, Corrigan N, Sebag-Montefiore D, Finan PJ, Thomas JD, et al. High hospital research participation and improved colorectal cancer survival outcomes: a population-based study. *Gut*. 2017;66:89–96.
- Nijjar SK, D'Amico MI, Wimalaweera NA, Cooper NAM, Zamora J, Khan KS. Participation in clinical trials improves outcomes in women's health: a systematic review and meta-analysis. *BJOG*. 2017;124:863–71.
- Cochrane Eyes and Vision. Available at: <https://eyes.cochrane.org/free-online-course-journal-peer-review> (accessed on March 2022).
- Ting DSJ, Vrahimi M, Varma D, Steel DHW; North East Trainee Research in Ophthalmology Network (NETRION). Research attitudes and perceived barriers to conducting research among ophthalmology trainees. *Eye (Lond)*. 2018;32:653–5.
- Hong B, O'Sullivan ED, Henein C, Jones CM. Motivators and barriers to engagement with evidence-based practice among medical and dental trainees from the UK and Republic of Ireland: a national survey. *BMJ Open*. 2019;9:e031809.
- Ophthalmology Specialty Group of NIHR Clinical Research Network. <https://www.nihr.ac.uk/explore-nihr/specialties/ophthalmology.htm> (accessed March 2022).
- Dawson SR, Linton E, Beicher K, Gale R, Patel P, Ghanchi F, et al. Ophthalmology research in the UK's National Health Service: the structure and performance of the NIHR's Ophthalmology research portfolio. *Eye (Lond)*. 2019;33:610–8.
- Ting DSJ, Vrahimi M, Varma D, Steel DHW; North East Trainee Research in Ophthalmology Network (NETRION). Trainee-led research networks in ophthalmology: is this the way forward? *Eye (Lond)*. 2018;32:476–7.
- Grinton M, Sandhu J, Shwe-Tin A, Steel DHW, Ting DSJ; North East Trainee Research in Ophthalmology Network (NETRION). Incidence, characteristics, outcomes and confidence in managing posterior capsular rupture during cataract surgery in the UK: an ophthalmology trainees' perspective. *Eye (Lond)*. 2021;35:1213–20.
- Swampillai AJ, Nowak VA, Maubon L, Neffendorf JE, Sahota D, Williams O, et al. Confidence of UK ophthalmology registrars in managing posterior capsular rupture: results from a national trainee survey. *Ophthalmol Ther*. 2022;11:225–237.
- Hanumunthadu D, Nowak VA, Hassan F, Hossain I, Patel DS, Hamidovic L, et al. Variations in treatment delivery for patients with neovascular AMD in the UK: results from an ophthalmology trainee clinical research network study. *Ophthalmol Ther*. 2017;6:295–300.
- Jamjoom AA, Phan PN, Hutchinson PJ, Koliass AG. Surgical trainee research collaboratives in the UK: an observational study of research activity and publication productivity. *BMJ Open*. 2016;6:e010374.
- Pinkney TD, Calvert M, Bartlett DC, Gheorghe A, Redman V, Dowswell G, et al. Impact of wound edge protection devices on surgical site infection after laparotomy: multicentre randomised controlled trial (ROSSINI Trial). *BMJ* 2013;347:f4305.
- DREAMS Trial Collaborators and West Midlands Research Collaborative. Dexamethasone versus standard treatment for postoperative nausea and vomiting in gastrointestinal surgery: randomised controlled trial (DREAMS Trial). *BMJ* 2017;357:j1455.
- COVIDSurg Collaborative. Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study. *Lancet*. 2020;396:27–38.

AUTHOR CONTRIBUTIONS

Study conceptualization and design: DSJT. Data collection: ZZO. Data interpretation and analysis: CH, AJS, LM, RRAB, DSJT. Manuscript drafting: ZZO, DSJT. Preparation of table and figure: ZZO, CH. Critical revision of the draft: CH, AJS, LM, RRAB. Approval of the final draft: All authors.

FUNDING

CH receives support from the National Institute for Health Research (NIHR) Clinical Lectureship (2020-18-009). DSJT acknowledges support from the Medical Research Council /Fight for Sight (FFS) Clinical Research Fellowship (MR/T001674/1).

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Darren S. J. Ting.

Reprints and permission information is available at <http://www.nature.com/reprints>

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.