Sir, Trainee-led research networks in ophthalmology: is this the way forward?

In the past decade there has been an increasing emphasis on trainee-led research collaborations across different specialties in the UK.^{1,2} Recently, the Royal College of Ophthalmologists had positively expressed its support on the establishment of 15 local ophthalmic trainee research networks (TRNs) across England, including the North East of England (NEE), that are aligned geographically to the NIHR clinical research networks, with an aim of reinforcing the research climate amongst ophthalmology trainees. To date, there have been limited studies evaluating trainees' views and expectations of TRN and none has been done within ophthalmology.^{3,4}

In 2017, the ophthalmology trainees in the NEE set up a research collaborative network, named the North East Trainee Research in Ophthalmology Network (NETRiON). During the set up, several important questions arose. These included the following: (a) whether trainees could lead research independently and the role of consultant input; (b) whether the TRN could (and how) increase trainees' participation in research; (c) authorship guidelines within the context of TRN; and (d) potential

strategies that could be employed to increase trainees' research participation in TRN. In order to address the above-mentioned questions, a region-wide questionnaire-based survey was designed and sent to all 29 ophthalmic trainees in the NEE.

A high response rate of 90% (26 out of 29) was received. The number of peer-reviewed publications per trainee (mean: 3.8, range: 0–20) was significantly influenced by the trainee's level ($P=0.005$), but not by the age, gender, year of graduation and additional academic degree. The majority of trainees strongly agreed/agreed (SA/A) that: (1) a TRN would increase their participation in research (81%), (2) clear authorship guidelines would increase trainees' participation (81%), and (3) consultant supervision was essential (77%; Figure 1). Trainees expressed that TRN could facilitate discussion/exchange of research ideas, create a supportive and collaborative environment, and help increase motivation amongst the trainees. Common suggestions for improving trainees' participation in TRN included provision of research support/training (19%) and evidence of research output (15%) from the network (Table 1).

On the basis of these findings, we encourage more experienced trainees to take on the study lead role under an experienced consultant's supervision. He/she will then recruit interested junior trainees, delegate specific

Figure 1 The summary of trainees' views and expectations of a trainee-led research network in the North East of England. Q1: I feel that a clear authorship is important in increasing trainees' participation in TRN. Q2: I feel that the authorship can be decided later by the lead author of the project based on the output of the trainees. Q3: I feel that the authorship should not be changed after the project has been started. Q4: I feel that there should always be a supervising consultant for every project in TRN for quality assurance purpose. Q5: I feel that TRN will help increase my opportunity in participating in research. Q6: I feel that TRN will help increase the amount of my international/national presentation. Q7: I feel that TRN will help increase my publication output. Q8: I feel that TRN will help improve research knowledge/skills (e.g. literature review/search, statistical analysis, manuscript preparation). Q9: I feel that TRN will help increase the quality of the study (e.g. larger number, multi-centered study). SA, strongly agree; A, agree; N, neutral; D, disagree; SD, strongly disagree.

Table 1 Free-text comments on how to increase trainees' participation in a trainee research network (TRN)

Methods of increasing participation in TRN	N (%)
A. Publicity	
Increase publicity of TRN meetings/events	2 (7.7)
Set up an online platform	2 (7.7)
Make the TRN aims clear to all trainees	1 (3.8)
B. Projects	
Increase awareness of available projects	2 (7.7)
Clear delegation of specific task and role to trainees	2 (7.7)
Regular meeting to discuss potential projects	2 (7.7)
Clear plan of study with timeline	1 (3.8)
Not to do too many projects at the same time	1 (3.8)
C. Evidence of output	
Demonstrate research output such as publications/presentations from the network	4 (15.4)
Incentives such as prizes and certificates to upload as evidence	1 (3.8)
D. Authorship	
Clear authorship guideline	1 (3.8)
E. Research training and support	
Offer research training and support	5 (19.2)
Provide research opportunities to trainees	2 (7.7)
F. Time	
Devoted time to participate	1 (3.8)
Best conducted during working hours	1 (3.8)
Should form part of the regional teaching programme	1 (3.8)

research tasks to each trainee, and provide required support. This will help senior trainees to develop the mentoring skills before they become a consultant and help the junior trainees to acquire the required research skills. A multifaceted research framework integrated with experienced academic faculty was shown to enhance trainees' research participation and scholarly output.⁵ In terms of authorship guideline, the members of NETRiON agreed that some authors, who were more significantly involved in the study, should be named in the publication and all other trainees who have contributed to the data set would be listed as collaborators.

Overall, there was a strong positive attitude amongst the ophthalmology trainees towards the establishment of TRN. Clear authorship guidelines, good supervision, provision of research training and evidence of research output generated from the network can help promote a sustainable trainee-led research network. We hope that future collaborations with other TRNs will occur.

Conflict of interest

The authors declare no conflict of interest.

North East Trainee Research in Ophthalmology Network (NETRiON)

Members of NETRiON who had contributed to the data set (listed in alphabetical order):

T Bommireddy, YM Chen, A Cunningham, K El-Assal, M Grinton, C Henein, E Hill, D Loganathan, D Lunt, H Madi, MC Markham, I Masri, C Matthew, M McKenna, A Mehta, JY Ng, Y Olaoye, K Oswal, R Rana-Rahman, J Sandhu, A Shwe-Tin, J Suleman, D SJ Ting, E Ting, M Vrahimi, GY Wong.

References

- 1 Jamjoom AA, Phan PN, Hutchinson PJ, Kolias AG. Surgical trainee research collaboratives in the UK: an observational study of research activity and publication productivity. *BMJ Open* 2016; 6(2): e010374.
- 2 <http://www.niaa-hsrc.org.uk/SNAP-1-Archive-Trainee-Research-Networks-and-SNAP-1> (accessed on 20 June 2017).
- 3 Jelley B, Long S, Butler J, Hewitt JWeGe N. Cohort profile: the Welsh Geriatric Registrar-Led Research Network (WeGeN): rationale, design and description. *BMJ Open* 2017; 7(2): e013031.
- 4 Shaw M, Harris B, Bonner S. The research needs of an ICM trainee: the RAFT national survey results and initiatives to improve trainee research opportunities. *J Intensive Care Soc* 2017; 18(2): 98–105.
- 5 Manring MM, Panzo JA, Mayerson JL. A framework for improving resident research participation and scholarly output. *J Surg Educ* 2014; 71(1): 8–13.

DSJ Ting¹, M Vrahimi², D Varma¹, DHW Steel^{1,3} and North East Trainee Research in Ophthalmology Network (NETRiON)⁴

¹Sunderland Eye Infirmary, Sunderland, UK

²Department of Ophthalmology, The James Cook University Hospital, Middlesbrough, UK

³Institute of Genetic Medicine, Newcastle University, Newcastle, UK

⁴Members of North East Trainee Research in Ophthalmology Network (NETRiON) are listed above references

E-mail: ting.darren@gmail.com

Eye (2018) 32, 476–477; doi:10.1038/eye.2017.202; published online 15 September 2017

Sir,

Comment on: 'One-year real-world outcomes in patients receiving fixed-dosing aflibercept for neovascular age-related macular degeneration'

We read with interest the clinical study of Almuhtaseb *et al*¹ on real-world outcomes in patients receiving fixed dosing aflibercept for neovascular age-related macular degeneration.

We would like to share our experience with a modified IVAN protocol that seems more cost effective than PRN, Treat-and-extend, and *Fixed dosing* in comparison to Almuhtaseb's Table 2 while maintaining MARINA-like outcomes (Figure 1). The IVAN protocol was defined as '*re-treat with IVI x 3*' in case of disease activity.² Our modification was to drop the follow-up visits between a course of three consecutive intravitreal injections (IVI) similar to current fixed dosing regimes.

Our mean number of doses per year with modified IVAN are 3.6 (Figure 2).

Our mean number of outpatient visits with OCT and VA are 10.4 (Figure 3).

Aflibercept versus Ranibizumab usage is currently ~50% in our service.

This results in a cost of this pathway of ~£4124 per patient per year. This is significantly cheaper than PRN (£8920), Treat-and-extend (£9968.70), and Fixed dosing (£6919).

A modified IVAN protocol offers the best of both worlds as the element of fixed dosing provides predictability of service demand and patient satisfaction due to the ability to pre-book three consecutive injections. The PRN element reduces the risk of over treatment as well as overall injection frequency. VA outcomes are similar to monthly Ranibizumab (Figure 1).

Conflict of interest

ARN has received consultancy fees and travel grants from Novartis and Bayer.

References

- 1 Almuhtaseb H, Kanavati S, Rufai SR, Lotery AJ. One-year real-world outcomes in patients receiving fixed-dosing aflibercept for neovascular age-related macular degeneration. *Eye* 2017 31(6): 878–883.
- 2 Chakravarthy U, Harding SP, Rogers CA, Downes SM, Lotery AJ, Wordsworth S *et al*. IVAN Study Investigators. Ranibizumab versus bevacizumab to treat neovascular age-related macular degeneration: one-year findings from the IVAN randomized trial. *Ophthalmology* 2012; 119(7): 1399–1411.