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The evolution of ScotRIGHT: The first pan-Scotland physician trainee research network

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Abstract

Scotland has a distinguished track record in foundational clinical research. From the completion of the first clinical trial undertaken in scurvy to cloning the world's first whole mammal, Scottish basic and clinical research is world leading. More recently, challenges in access to research skills, funding and programmes by clinical trainees led to the development of alternatives to these typical avenues of accessing research opportunities. Trainee networks evolved to meet the needs of trainees looking to access projects and collaboratives beyond audit and quality improvement (QI) commonly performed during structured training. These networks have enjoyed enormous success and have succeeded in progressing projects which have impactful outputs for patients, and improving clinical services. Here, we describe the foundation of the first pan-Scotland physician trainee research network; Scottish Trainees Research In Gastroenterology and Hepatology (ScotRIGHT). We outline the foundational efforts, requisites and foundations required to develop a research network.

Introduction

Scotland historically has an impressive record in clinical research. The first clinical trial was conducted by pioneering Scottish Royal Navy doctor James Lind in 1747, investigating the effects of citrus fruits on patients with scurvy. (1) Research practices have progressed a long way since, and are a key part of medical practice, even for the majority of doctors who choose not to explicitly practice within clinical academia. There are multiple benefits of research, for individuals, patients, departments and society. (2–4)

The National Institute for Health and Care Research (NIHR) data suggests that over 730,000 patients took part in research last year, while in the last 10 years, they recorded more than 6500 instances of their researchers influencing health and care policy. (5)

Centres that are more research active have been shown to benefit from the 'research effect' – providing a better care experience, delivering improved outcomes for patients (including improvement in mortality), with improved staff recruitment and retention. (2–4)

The importance of high-level research has been highlighted in the recent inclusion of clinical research activity in the remit of inspections carried about by the Care Quality Commission (CQC). For doctors in training, engaging in research is a key part of the medical curriculum. For those accrediting in general

internal medicine, curricula items in the new stage 2 internal medicine 2022 curriculum include capabilities in practice such as 'carrying out research and managing data'. (6) As an individual, in addition to specific skills related to the project, taking part in research develops skills in time management, leadership, understanding of the National Health Service (NHS) structure and effecting change.

Despite the knowledge that research is beneficial for patients, departments and individuals, significant barriers exist. Foundation trainees and consultants are the most likely to engage in research outside of a formal research role, with a substantial gap for the majority in core training (CT) (now Internal Medicine Training) and specialist training (ST) years. (7) Barriers to being involved in research include time and funding, while access to research opportunities and skills in research also featured. The majority of doctors would like to be more involved in research, and when considering types of research and opportunities, over 90% of gastroenterology trainees felt development of regional trainee research networks was important. (8)

Trainee Research Networks

The first trainee research network (West Midlands Research Collaborative) was established in 2008, and there are many well established successful such networks across much of the UK, encompassing many specialities. A recent exploration of the UK experience of trainee research collaboratives identified 35 physician research collaboratives, and 34 known surgical collaboratives. (9) Of those trainee research collaboratives that have contact details registered with the Royal College of Physicians of London, Gastroenterology is by far the most represented (9 of 33). There are also trainee networks in England in nephrology, respiratory, geriatrics, palliative care, oncology, acute medicine and haematology. A survey carried out, to which 23 UK trainee research networks responded, suggested that all had conducted audit, quality improvement and/or service evaluation within the last 5 years, and reported 136 PubMed-indexed publications. (9)

Trainee research networks provide a supportive, collaborative environment to undertake trainee led research often addressing challenges encountered in routine clinical practice. (9). Benefits to members include improved clinical processes through audit and quality improvement, leading to improved patient care, more publications and presentation opportunities. Taking part in and leading research also improves research, leadership and management skills and improves career opportunities, and preparation for consultant roles. (9)

Scotland is an ideal region in which to establish a network, with small numbers of trainees in each speciality, often taking part in Scotland wide-teaching fora, thereby providing convenient networking opportunities. From a systems view, Scotland also benefits from the Community Health Index (CHI) number, a unique patient identifier allowing all health data to be linked to individual patients and an individual Electronic Patient Record (EPR). Therefore, a pan-Scotland research network allows for national data to be collated effectively, with the possibility of being able to influence clinical practice at a national level, addressing the large gap in health inequity. Presently, only a handful of trainee research networks are in existence in Scotland, these are mainly in surgical and non-medical specialties (anaesthetics, orthopaedics and ophthalmology). There is currently no central registry for these networks.

ScotRIGHT: Scottish Trainees Research in Gastroenterology and Hepatology

There are a total of 46 gastroenterology doctors in specialist training in Scotland, who meet biannually for a dedicated teaching programme, established by and coordinated as part of the wider Scottish Society of Gastroenterology (SSG) conference.

Recognising the potential benefits, promoting a trainee research network was important to the trainee body. The success and sustainability of the collaborative network is secured by including trainees at all stages of training, from all representative regions, bringing a rich and varied research experience. Collectively, ScotRIGHT, Scottish Trainees Research in Gastroenterology and Hepatology was established. **This was endorsed and supported by the Scottish Society of Gastroenterology. An overview of steps that were undertaken to establish the network are highlighted in figure 1.**

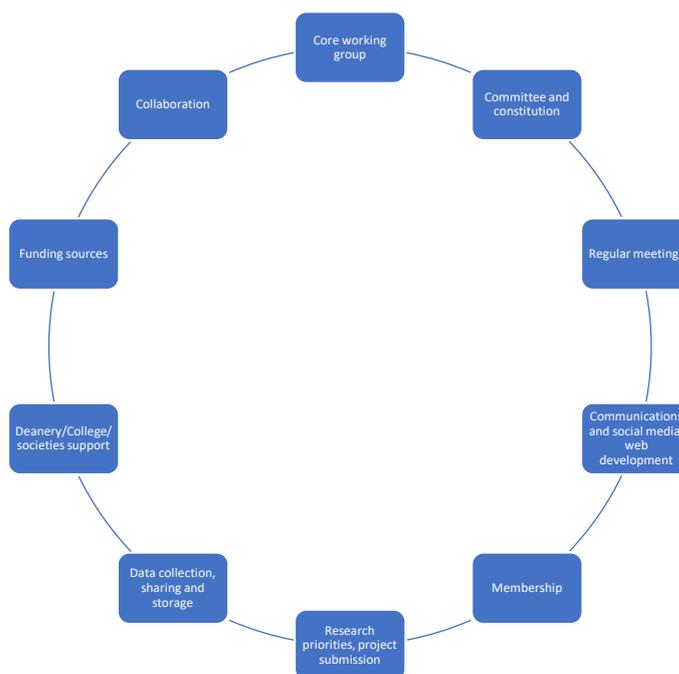


Figure 1. Setting up a trainee research network

The Committee

Committee positions include chair and vice chair, secretary, chief technology officer, treasurer, social media officer, regional representatives and a consultant liaison (as outlined in figure 2) . **An initial core working group of interested trainees made up the inaugural committee, each with a 2 year post. Future committee members will self-nominate from the general membership, and where more than one candidate, will be elected by the network membership.** As part of the inauguration of the network, it was necessary to adopt a standard governing constitution. We approached a number of

existing trainee research networks, and adapted some of these exemplar pieces in developing our own bespoke constitution. In developing a constitution, it was helpful to consider the requisite roles, responsibilities and tenure of the sitting members. Fundamental considerations also included the frequency of meetings and agenda development, membership roles, authorship and project selection process.

A number of societies have encouraged the role of appointing a nominal consultant liaison. The role of the consultant liaison is to provide feedback and support, ideally someone with a research background who can bring their wisdom and experiences to the group. They are a mentor and guide, whilst allowing the group to develop their own ideas and projects. **As we are supported and endorsed by the SSG, our consultant liaison is a SSG research lead, giving us mentorship, guidance and an element of oversight, alongside a continued link with the SSG committee. This also means the SSG are up to date with the networks projects and outputs, and gives a platform for us to share our successes.**

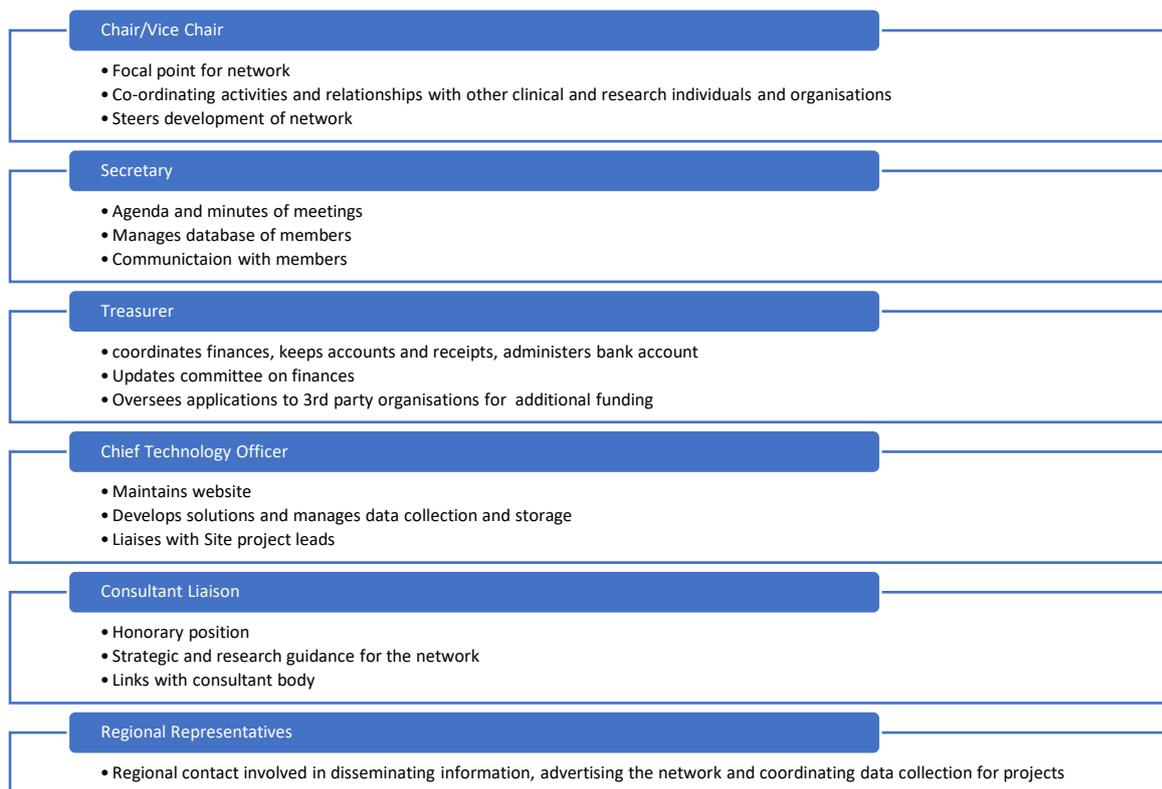


Figure 2. Trainee Research Networks: Suggested requisite committee members and roles

Meetings

Regular meetings are key to progression of the network. A pre-set agenda helps define the scope of the meeting, and are agreed and sent to the committee in advance. The frequency of the meetings depends on the stage of a project(s), but are at least every couple of months in order to ensure ongoing cycles of newer projects and determining outputs. A mixture of in-person (to coincide with regional teaching), and online meetings allows for maximal attendance, and minimal disruption. Online meetings are particularly helpful when considering diversity and inclusivity, and we have had members attending from across the breadth of Scotland, while on maternity leave, and out of programme.

Communications and social media

Our Chief Technology Officer had a crucial role in establishing the network. An easy to navigate and use website is an imperative composite. Through our website (www.scotright.com), doctors, students and allied healthcare professionals can join and collaborate with the network. They can opt in to communications from the network through a regular newsletter. This keeps members up to date with projects and opportunities to get involved in. This can involve both our own specific projects, and other research and teaching opportunities. Our website is designed so that any committee member is able to log in and write a newsletter or email the distribution list to provide contemporaneous updates. All email communications include an 'unsubscribe' option complying with General Data Protection Regulation (GDPR). With this in mind, we also chose to have an 'opt in' to communications that advertised pharmaceutical industry sponsored teaching and course opportunities.

Social media is also an important means of communication and networking, and we have an active twitter feed (@Scot_Right). This allows us to promote opportunities within the network, and share news, success stories and updates from other networks and research groups.

Membership

The initial aim had been to have automatic membership for all in programme doctors in gastroenterology in Scotland. However, the reality of communicating with the trainees with GDPR rules meant that doctors were required to proactively sign up. We used training days and social media to advertise the network. It was important to maximise membership and to encourage and support access to research in gastroenterology, so extended membership to include medical students, doctors at any stage of training including out of programme, allied healthcare professionals with an interest or role in gastroenterology, and consultants. While many of these members may not choose to be active in ongoing projects, they can be kept updated about ongoing projects and research opportunities, and can help support local trainees who are involved.

Project submission and choice

The number of annual projects will depend on membership numbers, and resource available to a network. Initially, we opted to limit this to a number of realistically deliverable projects per cycle. We developed an online project submission proposal form and while this can be completed at any time, as a new network, we are committed to only currently supporting one main project. This doesn't preclude us sharing information about other research projects hosted by other trainee networks or individuals, which members may wish to engage with outwith ScotRIGHT. For example, we are presently endorsing a national audit (EVOLVE: End of life care in advanced chronic LiVEr disease) which

was developed by a gastroenterology trainee research network in England. (10) **The nature of a trainee research network means that most projects are likely to be retrospective audits. Our biannual Scotland wide teaching days have allowed us to promote the network and call for project submissions from across Scotland trainees, allowing those in less research active units to have the opportunity to submit a project, and if successful lead a Scottish wide research project with support and mentorship from the committee and our consultant colleagues. Our first project which is currently recruiting is ScotJAK, looking at the use of JAK inhibitors across Scotland. We have trainees in hospitals across Scotland signed up and data collection will commence shortly.**

Project choice should also consider clinical and research priorities with a view to improving patient care and outcomes. For example, the James Lind Alliance Priority Setting Partnerships have identified and prioritised unanswered research questions which have been highlighted by patients, carers and clinicians. (11)

Data collection, sharing and storage

As with any research project, the necessary data approvals need to be sought prior to initiation of data collection. Projects should align with guidelines for ethical research, and data collection adhere to the Caldicott principles. (12) For multicentre projects such as those that would be undertaken by a Scottish trainee research network, there are two main options. One is to seek local Caldicott approval, through local trust processes. The other is to apply for Scotland wide approval for the project via the Public Benefit and Privacy Panel for Health and Social Care (PBPP) (if there are sites in England and Wales applications are through the Confidentiality Advisory Group, and in Northern Ireland applications are to the Privacy Advisory Committee).

Data storage should comply with trust information governance rules, and may depend on level of anonymity as determined in GDPR legislation. Commonly, anonymised data is shared via excel and similar spreadsheets. An alternative option is to use a data collection and storage platform such as REDCap (Research Electronic Data CAPture), a secure web application for data sharing. This will come with a financial implication, but can often be accessed through associated or hosting institutions such as Universities, local NHS trusts or societies.

Authorship

Several authorship models were considered ... The most common authorship method for a research network is to have a few named authors who have contributed to the majority of work, and to have the network listed as a collaborative with all members having corporate authorship, meaning they are PubMed searchable. This ensures that all contributors are recognised for their respective efforts, and builds visibility for the network, while ensuring transparency. It seeks to encourage members to participate in projects as they know their efforts will be rewarded.

Funding Opportunities

Accessing funding allows the network to support more ambitious projects, including provision for technical support including web design and maintenance, web page domains, and data storage applications. Funding can also be used to organise meetings, to attend meetings in other regions and to promote ScotRIGHT's output. Sources of funding include specialty societies, charities, deanery's and

the Royal Colleges. **ScotRIGHT have been fortunate enough to receive financial support from the SSG, who have endorsed the trainee network.** We were also awarded prize money from the British Society of Gastroenterology for contribution to training (Alistair McIntyre Prize runner up, 2022). Pharmaceutical companies may also be able to provide support, particularly for hosting meetings and educational activities. There are also prize funds which are specifically for trainee-led research which is another source of funding, albeit more competitive in nature. **Projects aligning with specific research priorities may also benefit from funding as a result.**

Conclusion

Physician trainee research collaboratives represent enormous potential to improve patient care. This may be a direct consequence of improvement and research projects, or indirectly through the development of enhanced research, leadership and collaborative work undertaken by trainees engaged within respective projects.

Our vision is that ScotRIGHT will invariably contribute to the Scottish, and indeed wider national and international research agenda, while directly influencing patient-related outcomes. Key items for consideration include engaged trainee cohorts, institutional and information technology support, access to small volume funding opportunities, support for collaborative authorship, and an outward view on collaboration within your specialism landscape. Most pertinently, patients and the betterment of their care should be the ultimate focus for developing a trainee network.

Useful Resources

Caldicott information: <https://www.gov.uk/government/groups/uk-caldicott-guardian-council#:~:text=A%20Caldicott%20Guardian%20is%20a,must%20have%20a%20Caldicott%20Guardian>.

Scotland wide approval via Public Benefit and Privacy Panel for Health and Social Care: <https://www.informationgovernance.scot.nhs.uk/pbpphsc/>

Approval in England and Wales via Confidentiality Advisory Group: <https://www.hra.nhs.uk/about-us/committees-and-services/confidentiality-advisory-group/>

Approval in Northern Ireland via Privacy Advisory Committee: <https://privacyadvisorycommittee.hscni.net/>

James Lind Alliance Priority Setting Partnerships: <https://www.jla.nihr.ac.uk/>

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