Developing a clinical research network: The Northern Region Endoscopy Group experience

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Research is central to the National Health Service. Clinical trial recruitment has been aided by the National Institute for Health Research’s Comprehensive Research Network but these networks do not support development of research. The Northern Region Endoscopy Group (NREG) was founded in 2007, encompasses 17 endoscopy units and has become a highly successful collaborative research network. The network is now a major contributor to UK trials, has published over 20 papers (>60 abstracts) and holds grants totalling more than £1.5 million. The NREG provides an exemplar model of how collaborative working can contribute significantly to biomedical research.

KEYWORDS: Network, research, collaboration, quality, National Institute for Health Research, NIHR, Northern Region Endoscopy Group

Background
The NHS is one of the largest organisations in the world and provides an ever-increasing range of services to its users. Maintaining and continually improving the quality and efficiency of services provided within the NHS through research, audit and service improvement is crucial. There is often clinician enthusiasm but becoming involved in research can be daunting. The complexities of research along with the pressure of clinical workload can be a barrier. Many see research as the preserve of large institutions with strong academic backgrounds. In addition, many clinicians working in smaller units may have insufficient patient numbers or support to undertake meaningful research. The National Institute for Health Research (NIHR) Comprehensive Clinical Research Network (CCRN) has helped to increase research activity; however, the development of research studies falls outside its remit. Development of collaborative networks at a clinical level is essential to drive research forward within the NHS.

This paper describes the model of the Northern Region Endoscopy Group (NREG), a highly successful clinical research network in the north of England. Since its inception in 2007, the NREG has established itself as one of the leaders in endoscopy research in the country, with a growing reputation internationally. The authors describe how this has been achieved and how this model could be replicated in other specialties and regions to complement the role of existing NHS research organisations.

Why develop a clinical research network?
The NHS offers a unique environment in which to conduct research and has the potential to deliver outstanding work. Few countries can deliver the relative uniformity of care and standards provided by the NHS. The NHS should lead world biomedical research. Historically, the majority of NHS research has taken place in larger academic hospitals with very little led from smaller units. It may not be possible to generalise single centre or academic centre research because these units might not be representative of wider clinical care. Furthermore, as most patients are managed in district general hospitals, there are likely to be fewer opportunities to become involved in research.

The establishment of the NIHR in 2006, and subsequently the CCRN and comprehensive local research networks (CRLNs), has stimulated greater involvement in research in England. This has been achieved through the provision of support costs to NIHR-approved clinical research studies that are included in the NIHR CRN portfolio and through assistance in the local approvals process. Clinicians with research ideas, however, still face the challenge of obtaining funding, developing research protocols and gaining the appropriate approvals before commencing studies. In addition, non-NIHR-funded research projects, as well as audit, service improvement
work and development of regional databases, all of which are important, are not within the remit of these organisations. Clinical research networks help bridge such gaps by providing complementary support to the NIHR in areas where it cannot currently offer assistance.  

Conducting research within a network allows large-scale, well-coordinated research studies to be performed, in contrast to multiple small studies that may not be reproducible. Networks also provide the opportunity for units of varied sizes to become involved in research, which consequently means that the results produced will be more generally applicable. Finally, clinical research networks allow research and other projects to be led from smaller units while providing the support and resources of larger centres, together with patient populations, thus developing and encouraging a research culture throughout the NHS.

How to develop a clinical research network

The Northern Region Endoscopy Group was formed in 2007 (joined by Leeds in 2012) with the aim of delivering a high-quality, region-wide research, service improvement and audit projects. The area covered is shown in Fig 1. Regular meetings are open to all with an interest in and enthusiasm for endoscopic research. The group has a representative from each organisation within the region, with each unit’s link person acting as a representative for that unit, in addition to being able to disseminate the information back to their colleagues. Regardless of size, all units are accorded equal status. During meetings, new research ideas are proposed and developed, and updates given on projects that are under way. New projects are brought forward by an enthusiast who subsequently leads the study. Each project also has an individual steering group supported by the NREG committee.

The NREG is an unofficial clinical research network from the perspective of the NIHR, although both the chair and the vice-chair are specialty group leads for their respective CLRNs. The group has terms of reference and is accountable to the committee, which has representation from each member trust. Initial resources included the time, enthusiasm and energy of the NREG’s founding members. Financial support was from industry, the strategic health authority (SHA) and the chair’s trust (South Tyneside Foundation Trust), who recognised the potential and early success of the NREG. This support was initially small and grew with the success of the group.

NREG had two early aims:

1 Clinically important region-wide audit projects and retrospective service evaluation work

The benefit of this approach was demonstrating collaborative work, overcoming barriers together and producing rapid results in order to demonstrate the value to the service, encourage clinical engagement and establish a presence. This also led to publication of abstracts and full papers, thereby developing further enthusiasm and engagement. Educational events with high-profile speakers further enhanced the reputation of the network.

2 Involvement in larger studies to increase experience of research and develop resources for further work

The NREG prioritised involvement and recruitment to established NIHR studies, encouraging region-wide engagement through promotion at NREG meetings. This also highlighted the potentially complex nature of prospective research studies and, therefore, the importance of collaboration with academic organisations and key opinion leaders with a track record of producing high-quality research. The NREG has developed a strong partnership with Durham University, along with close collaboration with other academic institutions (Imperial College, Leeds University) and centres of excellence in the UK and abroad. The NREG has also developed strong links with industry including testing prototype technology and techniques. After the achievement of these early aims, the NREG focused on forming an infrastructure that would allow high-quality collaborative research projects to be developed both within the region and through external collaboration.

Developing research ideas

Development of a research idea from infancy through to a proposal suitable for a grant application requires a long iterative process. This involves discussion of ideas and constructive feedback, ideally from individuals of varied backgrounds and experience to enable all perspectives to be explored. This process is difficult to achieve within smaller units both due to the time constraints of clinical commitments and because the required expertise may not be available. The NREG has been able to provide an environment, through collaboration of regional clinical expertise and local academic units, in which research ideas can progress to gain funding.

Research study support

Once funding has been secured the challenge of running a quality study begins. This initially consists of the development
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of a study protocol and documents, gaining ethical and local research and development (R&D) approval, followed by recruitment, monitoring, data analysis and report writing. The NIHR and CCRN provide support with the approvals process and encourage recruitment through its remuneration mechanism; however, they do not provide support in identifying and overcoming barriers to recruitment. Collaboration with academic units, specifically Durham University’s Clinical Trials Unit, has resulted in these processes being much smoother. Furthermore, local clinician collaboration allows region-wide study promotion and pooling of ideas on how improved recruitment can be achieved.

Barriers to success

Naturally there were some challenges during the initial period. These included delays in the local approvals processes, including difficulties with access for non-trust employees, and for audit and service improvement projects that are outside the remit of the NIHR. Solutions consisted of good communication with R&D leads from the NREG chair to expedite these processes. Funding was initially limited and compensated for by the enthusiasm of NREG’s founding members. The NREG’s progress led to interest from both the SHA and industry. A significant proportion of these initially limited resources was directed towards supporting recruitment to NIHR portfolio studies. Success in this area allowed funds to grow, facilitating further work. Engagement from member units was variable initially; however, buy-in has increased with promotion and on demonstration of the success of the model. The complexity of the NIHR structure, particularly with regard to the funding processes, was also an initial barrier. This was overcome through collaboration with those with experience of these systems, including academic units and Durham University.

What can a clinical research network achieve?

The NREG is the first clinician-led research network of its kind in the UK and has provided an infrastructure in which enthusiastic individuals and units, regardless of size or reputation, present and develop ideas for research as well as encouraging involvement in established local and national studies.

Early audit and service improvement work benefited clinical areas by playing a crucial role in improving the quality and efficiency of the services evaluated, as well as increasing the profile of these areas. The results of one study have also contributed to upcoming changes in the recommended national standards for colonoscopy performance.6 The work has also led to publications that played an important part in creating local enthusiasm and enhancing the national and international reputation of NREG.

National gastrointestinal (GI) studies have benefited from NREG’s promotion in its member units, leading to the two CRLNs covered by the NREG providing the highest number of recruits (by population size) to GI projects in the country (Fig 2). This increased research activity has also benefited

Fig 2. UK comprehensive local research network recruitment figures to gastrointestinal studies.

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The NREG has also played a role in attracting the endoscopy collaboration. This was initially between local enthusiasts and, as the group developed, with regional, national and international academic units, clinical centres of excellence and key industry leaders. The growing reputation of the NREG is such that the group is frequently approached by national and international academic units wishing to collaborate on research studies (Table 2).
Conclusion

The NREG has demonstrated rapid growth and development over a 5-year period. Many clinicians with research enthusiasm but no prior track records in research have been engaged. This has allowed involvement in endoscopy research for many and a research career for some. The growing reputation of the group has led to collaboration with many co-investigators throughout the UK and internationally. The NREG was initially established with few resources other than enthusiasm and hard work with the subsequent success generating resources and allowing the development of higher quality research and the group to flourish. The success of the NREG has also led to many invitations to talk to both GI and other specialty groups on how the group was developed and success achieved. The model is now being followed in other areas of the UK. We would strongly encourage other clinical groups to replicate this model and develop similar clinical research networks.

Acknowledgements

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Table 2. Summary of Northern Region Endoscopy Group (NREG) research projects, trainees and selection of published work and presentations.

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<th>Study</th>
<th>Trainee</th>
<th>Selected publications and presentations</th>
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<td>Evaluation of regional and national bowel cancer screening services</td>
<td>TJW Lee</td>
<td>Lee et al⁷</td>
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<td>Lee et al⁸</td>
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<td>Lee et al⁹</td>
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<tr>
<td>Evaluation of regional and national bowel cancer screening services</td>
<td>D Majumdar</td>
<td>Majumdar et al¹⁰</td>
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<td>Majumdar et al¹¹</td>
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<td>Majumdar et al¹²</td>
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<td>A region-wide audit of ERCP</td>
<td>S Chatterjee</td>
<td>Chatterjee et al¹³</td>
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<tr>
<td>Regional bowel cancer screening service evaluation</td>
<td>TJW Lee</td>
<td>Lee et al¹⁴</td>
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<td>Rajasekhar et al¹⁵</td>
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<td>Rajasekhar et al¹⁶</td>
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<td></td>
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<td>Lee et al¹⁷</td>
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<td>Quality Improvement in Colonoscopy (QIC) study</td>
<td>PT Rajasekhar</td>
<td>Rajasekhar et al¹⁶</td>
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<td>Rajasekhar et al¹⁹</td>
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<td>North East Interval Cancer study</td>
<td>MD Gill</td>
<td>Gill et al²⁰</td>
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<td>Gill et al²¹</td>
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<td></td>
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<td>MD thesis (accepted), Durham University</td>
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<tr>
<td>Detect Inspect Characterise Resect and Discard (DISCARD) 2</td>
<td>PT Rajasekhar</td>
<td>Rajasekhar PT, Discard II study – when can we leave polyps behind? Presentation. World Endoscopy Organisation Colorectal Cancer Screening Committee Meeting, Orlando, USA.</td>
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</table>

ERCP = endoscopic retrograde cholangiopancreatography.

References


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