

Making a difference: establishing a cardiology research team within a district general hospital

Cardiovascular nurses sometimes find themselves tasked with starting a service from scratch and developing this into an essential part of delivering excellent patient care. **Nicola Bowers**, ordinary council member and senior research nurse at Wycombe Hospital writes about her strategy and achievements in establishing a clinical research team at her district general hospital (DGH).

Building a cardiac research team

As research evidence driving patient care is emphasised (Department of Health (DH), 2006), there has been an increased demand for clinical research nurse posts. However, findings by the DH (2000) concluded that most settings 'failed to maximise the nursing contribution to research and development'. To resolve this, the report, *Best Research for Best Health*, (DH, 2006) set goals for supporting the research infrastructure by offering appropriate training and development for professionals within the NHS who are involved in research.

My masters dissertation in advanced nursing practice focused on the importance of the role and integration of the cardiology clinical research nurse within the cardiology

division. Six years ago this pivotal nursing post did not exist, and within the cardiology division, no research or clinical trials were open to recruitment.

Funding provided by the National Institute for Health Research (NIHR) paved the way for a clinical research nurse post and collaborative working with my organisation, commercial partners and an innovative consultant cardiologist. These collaborations have led to great achievements benefiting our cardiology patients.

As the only cardiac clinical research nurse in the DGH, I realised I cannot do this alone, and made the initiative to contact the Thames Valley Cardiovascular NIHR local research network where I became a member of the steering group committee. The main aim of the network is to improve and meet delivery targets for patient recruitment at a national level. Through my work with the group, we ran a successful international annual research network meeting where we also presented our research outputs.

Building on the achievements of the initial clinical research nurse post that I held, a research team has now been established. Within our division, we control our own financial research budget and have opened over 30 cardiac clinical trials. It was recognised that leadership for this team will also be a nurse role; hence a job description for a Matron Agenda for Change (AfC) grade of cardiac research was established. For his efforts in supporting the development of the research team, Dr Piers Clifford, our DGH Consultant Cardiologist, was recognised by the NIHR as a Clinical Research Network Leading Commercial Principal Investigator and by the *Health Service Journal (HSJ)* as one of the Top 50 Innovators in the NHS.

Innovative projects

As our team grows in capacity and confidence in carrying out high-quality research, we have taken on innovative projects that can have a huge impact on patient care.

Acute coronary syndrome

Despite the general assumption that patients with acute coronary syndromes (ACS) present themselves to the emergency department with chest pain, epidemiological data reveal that only about 50% of patients with chest pain suffer from coronary heart disease and only 10% have a definitive diagnosis of acute myocardial infarction (MI) (Mockel et al, 2013). The rest are diagnosed with other cardiac or extra-cardiac conditions, e.g. gastro-oesophageal, musculoskeletal, pleuro-pulmonary, mediastinal or psychogenic.

Apart from troponin, a second biomarker, copeptin, is already being used in Europe to diagnose and determine the severity of MIs. After a visit to a centre in Germany, I wrote a UK research protocol with Dr Clifford and gained successful ethical application to test this theory locally. In the 900 patients recruited, we aim to:

- ◆ Compare the safety of the present standard of care to the safety of an early rule-out strategy using combined testing of copeptin and troponin at admission in patients with signs and symptoms suggestive of ACS and a low-to-intermediate risk profile (Grace Score <140).
- ◆ To compare length of stay (in hours) of patients in both pathways.

The primary endpoint of the interim analyses will be the 30-day mortality of patients who were discharged from the emergency department based upon the biomarker test result. The data analysis is still ongoing and depending on the results, this new biomarker may help refine the diagnosis of MIs more accurately.

Cardiac rehabilitation

The cardiac research team was pivotal in the service redesign and implementation of an innovative, technology-based solution called Care4Today™ for cardiac rehabilitation involving patients with heart failure. Their achievements included recruiting

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>700 participants to this commercial research portfolio project within a year. This was instrumental in receiving a Patient Experience Network (PEN) award, recognition as a finalist in the Value in Healthcare *HSJ* awards, and for Buckinghamshire Healthcare inclusion in the list of Top 100 Performing NHS Trusts committed to delivering clinical research to time and target.

Results from this study have shown that referral to cardiac rehabilitation was 27 days with Care4Today™ compared with the national average of 55 days, more patients were on the programme (82% vs. 53% before the programme and 43% national average) and participated for a longer period (38 more days than the national average). We are currently awaiting data on hospital re-admission and patient mortality. The positive feedback from participants is encouraging and indicates acceptability of the new programme:

‘All the education and exercise has helped me to get to better than “normal”’

‘Caring and informative. Good exercise programme. Extensive information available’

‘I want to say how good I have found Care4Today, it has had a huge impact on my rehabilitation’

‘Despite my years as a GP in practice, I needed Care4Today’s help and explanation for a speedy recovery’.

Heart failure (HF)

The clinical research team is currently working on the development of an integrated pathway for the management of patients with HF. This is a £1 million jointly funded project with Janssen Healthcare Innovation. We are developing a reactive, responsive electronic patient record linking primary care physicians, secondary care cardiologists, pathology, radiology and the patient using novel digital technology.

Patients with HF will be able to take control of their disease by setting up pre-agreed automated alerts if their condition is deteriorating symptomatically, biochemically or physiologically. The warning signs are automatically communicated to the patient, their carer and the HF service. The research team is involved in all aspects of the project from writing the protocol, complying with all ethical and practice standards, to recruitment and evaluation.

Conclusion

From one nurse post, in collaboration with stakeholders, I was able to develop a highly successful and productive cardiac clinical research nurse team and help with increasing the profile of the research network. As a result, the DGH receives over £250K in income from commercial research which helps support cardiovascular research and the research team. Most importantly, this gives patients the opportunity to receive innovative care by participating in high-quality clinical trials.

I would like to use this model to improve research practice and nurture other nurses to take up clinical research roles throughout the cardiovascular division and beyond, reaching out to other departments to establish teams within other specialties.

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