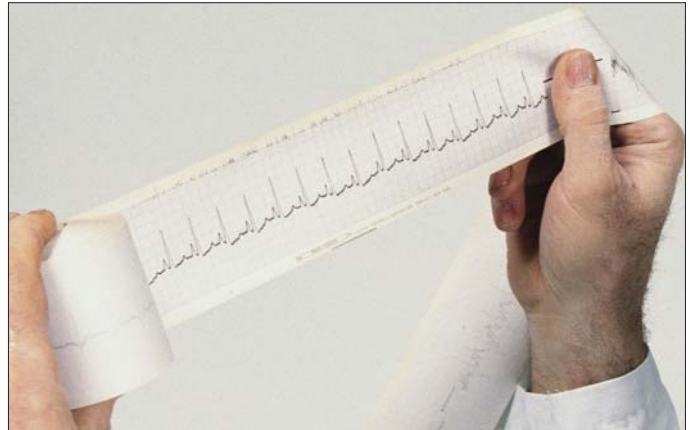


Working as part of a British Heart Foundation multidisciplinary team

By Russell Parsons, MRPharmS

Heart failure is a complex syndrome and a multidisciplinary approach to its management is advocated. This article describes the role of a pharmacist who, together with a nurse, delivers a heart failure service to patients in Northampton



Interpreting diagnostic tests is key to accurate prescribing and monitoring

Pharmacological management of heart failure is often inadequate,^{1,2} with many patients never being prescribed optimum doses of angiotensin-converting enzyme inhibitors, angiotensin II receptor antagonists and beta-blockers. Indeed, suboptimal pharmacological treatment accounts for up to 12 per cent of hospital admissions.³ In addition, heart failure is a complex syndrome and drug regimens can be difficult to follow. Poor compliance with treatments (together with failure to heed lifestyle advice) account for a further 40 per cent of readmissions.³ Moreover, many heart failure patients often have other diseases, for which they are taking medicines.

Having pharmacists as part of specialist multidisciplinary teams is therefore an ideal approach to managing patients with heart failure. It was with this in mind that the cardiology department at Northampton General Hospital, a large district general hospital with 26 dedicated cardiology beds and four consultant cardiologists, put in a bid to the British Heart Foundation (BHF) to fund a hospital-based service staffed by a full-time nurse specialist and a full-time pharmacist.

Multidisciplinary team

The bid to fund a multidisciplinary heart failure service was submitted to the BHF in 2006. The vision was to deliver appropriate

medical therapy plus lifestyle and disease management advice to inpatients and outpatients with left ventricular systolic dysfunction (LVSD), in part, by using supplementary prescribing. Northampton General Hospital NHS Trust was fortunate to receive funding from the BHF for three years. In so doing, it secured the first funding granted for a BHF pharmacist post (BHF nursing posts were established in 1995).

The BHF pharmacist post was subsequently advertised nationally, together with the nurse specialist post, and I was the successful candidate. This new post gave me an opportunity to develop my interest and knowledge in cardiology.

The new service began in late in 2006, with the following aims:

- To improve the management of patients with acute and chronic heart failure
- To improve the quality of life of patients with chronic heart failure and support their carers
- To avoid unnecessary hospital admission and reduce length of stay
- To facilitate admission where this is appropriate
- To act as a resource for health care professionals in both primary and secondary care
- To provide seamless care between primary and secondary care

Inpatients Inpatients with heart failure are identified daily on the medical admissions unit by the heart failure team. Details about a patient's reason for admission, cur-

rent drug therapy, lifestyle and social issues are obtained and reviewed and treatment recommendations are made to the medical team. Early investigations, such as checking for raised levels of brain natriuretic peptide (BNP) (a biochemical marker released by the heart in response to stretch) and performing echocardiography are expedited to ensure that patient's heart failure is managed promptly and appropriately. The heart failure team continue to monitor patients throughout their hospital stay, following them up as outpatients as appropriate.

Outpatients The heart failure team holds two outpatient clinics per week at the same time and in the same department as established consultant cardiologist clinics. Most patients with LVSD (confirmed by echocardiography) are referred to the heart failure team by cardiologists, often with a recommended treatment plan.

Consultations are run jointly by the pharmacist and nurse specialist. Patients are encouraged to self-manage and self-monitor their condition. They are asked to weigh themselves daily, and are able to contact the team during office hours if their weight increases or symptoms deteriorate. At present, no out-of-hours service is offered but patients are told how to contact existing emergency care services.

Medication history is established during consultations and the aims and potential risks of therapy are explained. Heart failure therapy is initiated and modified according to local and national guidance. Supplementary

Russell Parsons is heart failure pharmacist, Northampton General Hospital, funded by the British Heart Foundation

prescribing is used to optimise doses before patients are discharged from the clinic. Any blood tests required to monitor therapy are ordered and acted upon accordingly.

Written advice is provided in the form of the "BHF heart information series" and a patient-held record is under development. Careful monitoring of symptoms by the heart failure team is often required to ensure patients continue to benefit from their prescribed medicines and experience minimal side effects.

Evaluation and audit

Ongoing audit is performed to assess the benefits of the service delivered by the heart failure team. Data is currently being collected on the number of patients admitted to hospital, length of hospital stay, interventions made and number of times key medicines are prescribed, to assess the benefit of the service. Formal analysis of the data has not yet been carried out.

Qualitative assessment is also planned. Informal feedback suggests that the service has been well received. For example, having the heart failure team in the outpatient setting has freed consultant time and has ensured continuity for patients attending the clinic.

Planned developments

A diagnostic clinic is set to start in the next few months. This will take place on alternating weeks at two primary care settings in Northamptonshire, in accordance with the philosophy of providing services closer to patients' home outlined in the Government's recent white paper, "Our Health, Our Care, Our Say".⁴

The clinic is being developed with a consultant cardiologist and two local GPs with a special interest in cardiology, one of whom is a British Society of Echocardiography accredited echocardiographer. The BHF has again been key to the development of this service through part funding of a portable echo machine.

Patients with suspected heart failure (ie, raised blood BNP levels) can be referred by their GP to the diagnostic clinic for echocardiological investigation. Subsequent management, including drug optimisation, of those found to have heart failure will be carried out by the heart failure team.

I am planning to undertake a conversion course from supplementary to independent prescribing when this becomes available locally. This should enable me to give patients more timely access to medicines and enhance the support I am able to provide to general medical teams.

Another planned development is that we are currently producing a specific heart failure care plan for inpatients to enable consistency of care across the medical directorate.

Challenges

One of the major challenges for the service is that we only see a small number of patients with heart failure. Many patients remain undiagnosed until their symptoms deteriorate to the point that they are admitted to hospital. Northampton General Hospital serves a population of approximately 200,000. The prevalence of heart failure in the general population is estimated to be between three and 20 cases per 1,000, meaning that there could be as many as 4,000 patients in our local area with heart failure. Our new diagnostic clinic will help address this issue, but is not a complete solution.

There is currently no specialist community heart failure service in south Northamptonshire to which we can refer patients. This makes arranging for patients to be visited at home more difficult. However, there is an active network of community matrons in the area, with whom we are developing links. Through them, we can contact community palliative care services and hospices for those patients who are at the end-stages of the disease. This network also provides us with links to district nursing staff and Macmillan and Marie Curie nurses. We are also developing links with the hospital-based palliative care team and local hospice to improve the access we can provide to end-of-life care.

A key challenge for me as a pharmacist is to develop patient examination skills and expertise in interpreting heart failure-related diagnostic tests. This is key to successful prescribing and monitoring patients' response to therapy and identifying adverse effects. I am fortunate to have support from my specialist nurse and cardiology colleagues, and plan to undertake a clinical examination module as an "add-on" part of the heart failure course I am taking at Glasgow Caledonian University (see below).

Other roles

Although I am now employed by the cardiology department, I remain a part of the clinical pharmacy team, professionally accountable to the chief pharmacist.

I provide a clinical pharmacy service to the cardiology ward and represent the pharmacy department in other ways, for example, by liaising with cardiologists to prepare submissions to the trust's formulary and medicines management committees.

In addition, I am responsible for delivering clinical training in cardiology each year to four students undertaking the Cardiff University diploma in clinical pharmacy and three pre-registration trainees.

The prevalence of heart failure increases with age (incidence rises from three to 20 cases per 1,000 population to 80 cases per

1,000 population in those aged over 75). With an ageing population, the team is aware that our workload is set to increase. Although this brings its own challenges (ie, those connected with workforce and funding), we believe that our model of care is an efficient and effective way to support heart failure patients and their carers now and for some time into the future.

Skills and learning

Good communication skills, both with patients and their carers, other members of the multidisciplinary team and primary care colleagues are critical to my role as a BHF pharmacist.

It has been a significant learning experience for me to be involved in all the stages of planning a model of care. Another learning experience has been being closely involved in dealing with end-of-life issues.

The BHF is committed to training and research and provides comprehensive education programmes for all of its professionals. I therefore attend six-monthly study days, have access to a professional development fund and various networking opportunities. My specialist nurse colleague and I are currently undertaking the Glasgow Caledonian University heart failure course, which was originally developed in conjunction with BHF and the British Society for Heart Failure.

Conclusion

It is clear that a multidisciplinary approach to the management of chronic diseases such as heart failure is critical. One of the reasons my specialist nurse colleague and I believe our heart failure service has been so well received so far is because of our complementary expertise. Neither of us have the skills to manage this group of patients single-handedly but, as a team, with support from cardiology and primary care colleagues, we do.

References

1. Gattis W, Hasselblad V, Whellan D, O'Connor CM. Reduction in heart failure events by the addition of a clinical pharmacist to the heart failure management team. *Archives of Internal Medicine* 1999;159:1939-45.
2. Clark A, Coats A. Severity of heart failure and dosage of angiotensin converting enzyme inhibitors. *BMJ* 1995;310:973-4.
3. Krumholz H, Amatruda J, Smith G, Mattera JA, Roumanis SA, Radford MJ et al. Randomised trial of an education and support intervention to prevent readmission of patients with heart failure. *Journal of American College of Cardiology* 2002; 39: 471-80.
4. Department of Health. Our health, our say: A new direction for community services. The Department: London; 2006.