



NURSE-LED, HOME-BASED MANAGEMENT OF CHRONIC HEART FAILURE

Patients with heart failure account for some 5% of acute medical admissions to hospital and 10% of bed occupancy. Re-admission to hospital is a common problem, but nurse-led community management programmes are one form of intervention which have been shown to lead to both improved compliance and reductions in hospitalisations in a number of different countries,^{1,2} including the UK³.

This Factfile describes one such system operating in Scotland.

The Glasgow model

The Glasgow heart failure service was established on the basis of a randomised-controlled trial (1997-1999) funded by the Scottish Office. This demonstrated that home-based interventions (used in addition to conventional care) reduced the number and duration of hospital readmissions in patients with chronic heart failure³. As a result of the positive outcome, the health board in Glasgow has funded a city-wide heart failure service which was implemented in July 2000. Currently, there are 5 full time and 5 part time nurses involved, plus a nurse co-ordinator. Staff are employed by the primary care trust, but have accommodation within the 5 adult acute hospitals serving the population of approximately 1 million people. The nurses are specially trained in heart failure management and work in conjunction with general practitioners and cardiologists to optimise the management of patients with chronic heart failure after hospital discharge. The aims and philosophy of this service are summarised in table 1.

Table 1

Key components of nurse-led home based intervention

- Qualified specialist nurse who is able to work as an autonomous practitioner
- Regular follow-up and assessment to detect early clinical deterioration
- Continued adjustment and optimisation of therapy according to agreed guidelines and protocols
- Close monitoring of blood chemistry
- Facilitation of self-management where possible
- Encouragement toward daily weight monitoring and to report any increase in weight of 1kg or more per day which persists over more than 2-3 days
- Education – pharmacological and non-pharmacological
- To act as an intermediary between the patient and other health care professionals, including cardiologists and staff in primary care
- To provide support for patients and their families/carers

The nurses implement agreed protocols include prescription guidelines drawn up in conjunction with general practitioners and cardiologists. The nurses are able to access advice from a cardiologist at each hospital site and the service runs from Monday to Friday, 9.30 am to 5.30 pm. Currently, the model used in Glasgow identifies those patients at greatest risk, ie those who have had a hospital admission related to deteriorating heart failure. Although a major aim of the service is to reduce hospitalisation rates, much emphasis is placed on making an impact on the patient's quality of life and satisfaction with their healthcare.

Care in the community

The patient is visited at home within one week of discharge from hospital and a second visit is paid 1-2

weeks later. Subsequent visits and telephone contact are determined by individual patient needs. If telephone contact is not possible, then this is substituted by a home visit. The patients can contact the nurses in the hospital by telephone, answering machine or pager and in the community by mobile telephone. Much of the intervention takes place in the initial few weeks following hospital discharge and includes monitoring blood chemistry following medication changes, such as initiation and titration of ACE inhibitors, increasing and decreasing diuretic therapy and commencing spironolactone. Local arrangements are made at each site for initiating patients on beta-blockers and the nurses titrate this therapy in the community. A patient-held record book has been developed and is issued to patients prior to their discharge from hospital. This has proved to be educational, as well as providing a record of progress and treatment and is a valuable tool for other healthcare professionals involved in the patient's care. Patients and their families are encouraged to make contact in the event of problems or changes to their condition. All patients have telephone contact made at 3 months and if a further readmission occurs the intervention process is restarted.

Developing the service

At present the service is being monitored, evaluated and audited at regular intervals, so as to ensure both the high standard of care, as well as the effectiveness of the service as a whole in improving health outcomes. Further developments will include exercise programmes tailored to meet the needs of this patient group, heart failure clinics for stable ambulant patients and palliative care support for patients with advanced heart failure.

Conclusions

Specialist nurse-led interventions in heart failure are particularly effective in improving health outcomes when they incorporate an inter-disciplinary approach¹ and home visits. They represent a cost-effective means of reducing hospital use by patients with chronic heart failure, as well as improving their overall quality of life – provided that they are adapted to the local health care environment.

References:

1. Rich MW, Beckham V, Wittenberg C et al. A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *N Engl J Med* 1995; 333: 1190-1195
2. Stewart S, Vandenbroeck AJ, Pearson S et al. Prolonged beneficial effects of a home-based intervention on unplanned readmission and mortality among patients with congestive heart failure. *Archives of Internal Medicine* 1999; 159: 257-26
3. Blue L et al. Randomised controlled trial of specialist nurse intervention in heart failure. *BMJ* 323; 2001: 715-718

Further reading:

4. Stewart S, Horowitz JD. Home-based intervention in congestive heart failure: long-term implications on readmission and survival. *Circulation* 2002; 105; 2861-2866
5. Marriot R. Improving the management of CHF: a unique approach. *Cardiology News* 2002; 5; 23-25
6. Stewart S, Blue L. Eds. Improving outcomes in chronic heart failure: a practical guide to specialist nurse intervention. *BMJ Books* 2000