

Preliminary findings of Home-HF randomised controlled trial



The Home Heart Failure Study - A Randomised Controlled Trial - Home Telemonitoring of Heart Failure Patients at High Risk of Readmission and Death

Leading cardiologist Professor Martin Cowie of Imperial College, London has embarked upon a randomised controlled evaluation of home telemonitoring (telehealth) of patients with heart failure recently discharged from hospital.

METHODS: Home-HF study is a multi centre randomised controlled trial, set within three large district general hospitals located in North West London.

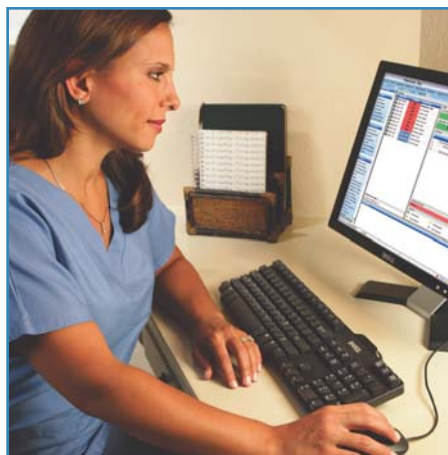


Following discharge, patients hospitalised for heart failure were randomly allocated to either a remote monitoring group, using the Honeywell HomMed Genesis monitor, or a usual care group for 6 months. Patients in the telemonitoring group recorded the following vital signs daily at home:

- blood pressure
- weight
- heart rate
- oxygen saturation
- symptoms

These readings were transmitted via a secure telephone line and reviewed daily on a central station by a heart failure specialist nurse based in each of the three hospitals. Any deviation of these vital signs from predefined parameters that suggests clinical deterioration triggers an alert and leads to a clinical response which may include:

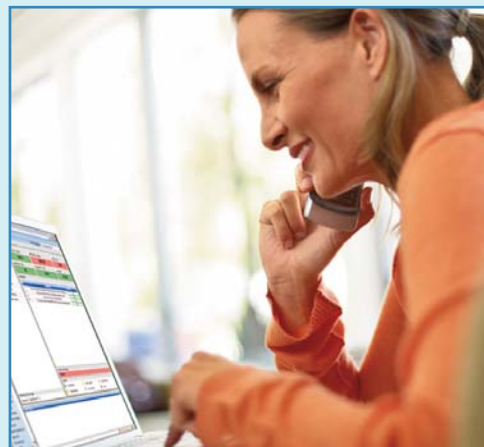
- Further investigation through a telephone call to the patient
- Instruction regarding medication titration
- Referral to primary care
- Intervention via the clinic or hospitalisation



RESULTS: A total of 182 patients were included in the study with the following baseline demographics: 120 (66%) male, 62 (34%) female, mean age 71 years (SD±12 years), 32% lived alone, 49 (27%) from an ethnic background. 95% of Telemonitoring (TM) patients were monitored >90% of the time. No difference was observed in the number of days alive and out of hospital between the two groups.

Key benefits of Telemonitoring as proven by the trial:

- **Fewer unplanned admissions** - proportion of heart failure admissions that were unplanned was much lower in the telemonitoring group (38% versus 94% in usual care)
- **Fewer outpatient visits** - UC patients made more outpatient visits (733) than TM (622), releasing hospital resources and reducing cost
- **Less transport costs** - NHS has a commitment to reducing its carbon footprint - telemonitoring can help achieve this aim by reducing the amount of transport to and from hospital for outpatient visits
- **Less inconvenience to patients** - unobtrusive, the patient was not tied down to a strict appointments regime and could fit the monitoring into their day at a time convenient to them



Additional cost for NHS telemonitoring arm only £203 per patient

It can be concluded that:

- **Up to 5 times more patients to be supported** - with an average case load of around 50-60 patients per nurse, telemonitoring would enable the management of at least 200 patients per nurse - that's up to 5 times more patients
- **Improved self care for the patient in their home** - patients were more confident about recognising symptoms, managing medication and more aware of their condition
- **Support for evidence-based decision making** - due to the regular monitoring of HF patients in their own home, more accurate, evidence based risk assessments can be made. Professionals are able to keep a closer watch on their patients health
- **Reduced need** for outpatient clinic review

The results of the study, with its high compliance rates, show that telemonitoring is acceptable to heart failure patients as well as providing improved access to care, the more efficient use of outpatient resources, better proactive treatment pathways & organisational benefits such as manpower allocation.

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In partnership with leading telecare and telehealth provider
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Final results will be presented at the British Cardiovascular Society meeting in May 2008

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