Minicare H-2000 remote monitoring system for patients undergoing chemotherapy

TIMEFRAME: Estimated earliest commercial availability in the UK

TECHNOLOGY

The Minicare H-2000 is a portable remote monitoring system for use at home that has been developed by Philips Healthcare for patients undergoing chemotherapy for cancer. The system monitors white blood cell count, haemoglobin, temperature and other symptoms associated with chemotherapy related toxicities that may be indicative of an adverse event.

The Minicare H-2000 system comprises a small haematology analyser, thermometer and a telecommunication hub. Patients can self-test their blood at home using a capillary blood sample obtained by a finger prick that is added to a reagent cartridge for analysis. Patients can also measure their temperature and answer symptom assessment questions by recording their feedback on the telecommunication hub.

The telecommunication hub is a touch screen and keypad which automatically sends results in an encrypted format to the server, via a 2G GPRS or 3G network. The server analyses the results based on pre-determined alert criteria for monitoring of adverse events, set by the clinician. Alert messages are then accessed by the clinician. The server additionally provides graphical representations of monitoring results and this information is used to supplement existing laboratory patient data to provide feedback for chemotherapy regimens or any other necessary action.

The company anticipate to launch the Minicare H-2000 system in the UK for private and NHS clinical use following CE marking in 2014.

POTENTIAL FOR IMPACT

Following discharge from hospital, cancer patients receiving chemotherapy treatment can be at risk of adverse events including febrile neutropenia (low white cell count), pneumonia and other infections. Patients may miss the early signs of febrile neutropenia, leaving them susceptible to more serious infection, resulting in hospitalisation.

According to the company, the Minicare H-2000 system has the potential capacity to provide clinicians with an early warning for fever, neutropenia and the onset of any life threatening adverse events. This information can be used alongside other laboratory results to inform early intervention.
The company state that the Minicare H-2000 system provides clinicians with timely monitoring information for them to make an informed decision about the optimum time for the next dose of chemotherapy. Monitoring of cell count using the Minicare H-2000 may also save patients from making an unnecessary journey to the hospital at times when chemotherapy cannot be administered because of a low white cell count.

The company claim that a key innovative feature of the Minicare H-2000 system is that it offers patients the capability to be remotely monitored from their home during acute treatment with chemotherapy. Further benefits for patients as claimed by the company, may in the future include a potential reduction in morbidity, improvements in quality of life and potentially better health outcomes. The company anticipate the Minicare H-2000 system will work as an adjunct to existing therapy and may provide capabilities to personalise oncology treatment. The company state that the NHS may in the future benefit from the potential reduction in resources spent on unnecessary patient visits for chemotherapy and unplanned admissions for adverse events. The company also anticipate potential improvements in cancer service scheduling and delivery.

If clinical and cost effectiveness can be demonstrated, the Minicare H-2000 system may offer an additional remote self-monitoring option for patients/carers who will be trained to use the system by a home-visiting nurse.

EVIDENCE

PUBLISHED PAPERS AND ABSTRACTS


COMPANY INFORMATION

Outcome studies and health economic studies are pending publication.

Further economic modelling studies with the universities of Leeds and Oxford and phase II clinical outcome studies with Bexley Wing Cancer Centre, are ongoing.

INFORMATION FROM

This Alert is based on information from the company and a time-limited internet search.