University Hospitals of Coventry and Warwickshire NHS
CEBIS Case Study

Summary

It has been Jacqui Le May's mission in life to bring patient care to the forefront of medical library services and make clinical decision-making better informed, using all available evidence sources. The dissemination of best practice and patient care is at the heart of this story. It involves outreach staff who work directly with consultants and act as a catalyst for gathering and disseminating research. Processes and systems have been revised over many years and now following an 18-month pilot of CEBIS the benefits are visible for patients, doctors and the Trust. As a result of Jacqui’s vision, the University Hospital of Coventry and Warwickshire (UHCW) Library & Knowledge Service now has CEBIS. A simple tool for collection of evidence, discussion and dissemination of practice summaries. The use of CEBIS is now expanding to manage research and innovation, minimising risk and providing a valuable teaching aid.

UHC&W’s Challenge

The challenge for UHC&W Library & Knowledge Service was to prove the business case for a cost-effective multi-disciplinary and sustainable solution to improve patient care quality. The project was also aimed at addressing underlying disciplines such as:

- Information literacy, resource awareness and critical appraisal skills
- Undergraduate and postgraduate education
- Effective use of clinicians' time
- Treatment cost justification and saving
- Lifelong learning

The Solution

CEBIS was very easy to implement as it was designed as a web based system that can be accessed from anywhere in the Trust network. No software needs to be installed on mobile devices or desktops. Experts who were not based in the main hospital site could be included as part of the team and invited into a case. This made it extremely attractive. Everyone could share, comment and discuss the evidence without being in the same location and at the same time. Emails sent were included as the evidence base and questions and ideas could be acted upon, to perform further research that then could be summarised, saving a great deal of time for clinicians. CEBIS could be accessed by any device, authorised to connect to the hospital network, that has a web browser. This meant it could be used when conducting ward rounds, supported by desk and online research. Nothing is left out. Questions raised, evidence summaries, comments via discussion board and Evidence Based Practice Group (EPG) presentations are all available to team members assigned to a Case.

Training courses were developed to help establish the methodology but CEBIS was found to be easy to navigate and straightforward to use.
How CEBIS is implemented can vary and the Clinical Librarian can decide this. At UHCW it was decided that only challenging clinical cases, that were within scope, should be progressed in CEBIS. However, the system can be applied to all research questions and thereby building up a knowledge base across all areas of the hospital. CEBIS has been designed to make it easy to configure to meet different needs and different ways of working and administrator functions allow customisations to be made without the need for IT involvement. Following the conclusion of the pilot, other areas of the Trust are now using the system for managing research and governance.

**Outcomes and Benefits**

The disciplines of collecting evidence afforded by CEBIS lead to a number of outcomes that contribute to a collaborative inclusive culture. The pilot has demonstrated and proved that putting a system in place has a positive effect on the following areas:

- Improving information literacy, resource awareness and critical appraisal skills.
- Improved evidence-based clinical decision making leading to better outcomes for patient care.
- Establishing an archive of evidence summaries and presentations for reference and education.
- Introduced a form for open and unbiased discussion of best practice for clinical management.

The CEBIS solution has been showcased in the NHS West Midlands publication titled *Innovation and Notable Practice 2012*.

**Examples of the type of question and outcome that CEBIS has supported at UHCW**

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<tr>
<th>Clinical Query</th>
<th>Outcome</th>
<th>Cost saving</th>
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<td>Does the use of local anaesthesia in vitreoretinal surgery compromise the patient?</td>
<td>There was no evidence of compromise to surgical outcome or patient safety. Change from 80% GA to 80% LA procedures.</td>
<td>£140,000 p.a.</td>
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<td>Do patients with anaemia treated with Desferrioxamine require routine medical retina follow-up?</td>
<td>Evidence review found no value in routine follow up of these patients.</td>
<td>Saving 50 outpatients appointments p.a. £5,500</td>
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<td>Patient (2) specific queries relating to challenging viral retinitis and fungal endophthalmitis</td>
<td>Rapid review of patient management, therapy and discharge saving on lengthy inpatient stays.</td>
<td>£6,356 (based on 2 weeks stay only)</td>
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<td>Is it necessary for patients to withdraw aspirin use prior to oculoplastic surgical procedures?</td>
<td>Evidence highlighted that it was not detrimental to patients to continue their aspirin therapy for a range of oculoplastic surgical procedures.</td>
<td>Reduction in surgical waiting times. Facilitated use of short notice surgical cancellations. Shortened length of pre-operative assessments.</td>
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<tr>
<td>Is it safe for patients with intraocular gas tamponades to travel by air following vitreoretinal surgery?</td>
<td>Evidence showed that it was not safe for patients to undertake any activities at high altitude or to receive nitrous oxide anaesthesia.</td>
<td>Work with the VR Evidence in Practice Group resulted in patients leaving theatre with a warning wristband. The wristband is now provided by BOC on the purchase of intraocular gas internationally and the team achieved a National Award for Evidence in Practice.</td>
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Past, Present & Future

UHCW has invested in Clinical Librarian Services since 2004, when Jacqui LeMay introduced the idea having previously done similar work at Leicester General Hospital. In 2009 the Clinical Librarian Services team succeeded in obtaining trust approval to create a Clinical Evidence Based Information Service (CEBIS) using software systems that integrated into Outlook email systems and optional EPR systems in the hospital.

Three CEBIS specialists were recruited in 2010. Integral members of the clinical team, the CEBIS specialist provides a ranked summary of available evidence in response to raised queries. They also work jointly with junior doctors to produce critiques of the evidence for open discussion and decision making within the specialty’s evidence in practice group (EPG).

Core stakeholders are those with a responsibility to participate in CEBIS work and include: Consultants, Junior Doctors, Nursing and Allied Health Staff. Other stakeholders may include Students on placement, Corporate Employees, internal or external Experts or Nominated Persons.

The short term impact has been the implementation of the CEBIS model within the trust with a number of specialties having adopted CEBIS as an integral part of their working practice.

Evidence summaries, and particularly EPGs have resulted in changes to practice and cost savings within the trust.

Feedback has been extremely positive. The need to improve information literacy has been highlighted. As a result, the trust has initiated a small pilot CEBIS mentorship programme for foundation year 2 doctors to be evaluated at the end of the year.

Statements from senior clinicians from the UHCW departments who were involved in the CEBIS pilot (Ophthalmology, Neonatology and Clinical Governance) have all been positive. A selection of the comments made reveal that the system has earned its place and confirmed that the pilot should be a permanent system, as a result of saving clinician time and contributing to quality of patient care.

- A novel and innovative way of integrating information acquisition and dissemination to the clinical team and patients in a busy clinical environment.
- Highlights the evidence in practice debate in relation to ‘poor evidence’ available on which to make clinical decisions.
- Enables open and unbiased discussion in the development of ‘best practice’ in regards to clinical management.

Cost savings can be clearly demonstrated in many areas, as a result of CEBIS bringing into focus the options based on evidence. Other departments now will adopt CEBIS and the working practices that have been developed around it and further clinical library staff are being recruited to support the work of the front line clinicians.

For more information go to http://www.soutron.com/OurSolutions/MedicalInformationSystems.aspx