

Assuring Quality in Cardiac and Other Surgery CUHK Initiates Surgical Audit Database

An agreement has recently been reached under which complete details of treatment and follow-up care for every patient undergoing surgery in each of Hong Kong's three cardiac units will be placed on a specially designed high end surgical audit database. Supplied by Dendrite Clinical Systems Ltd, this database came on stream in December last year. It is owned and administered by the Department of Surgery in the Prince of Wales Hospital, the teaching hospital of the Chinese University of Hong Kong.

An automatic module regularly analyzes the complex data on each surgical case and generates customized reports as required. Outcomes for patients and overall trends can then be progressively benchmarked against today's rapidly evolving international standards for cardiac surgery. Surgeons and managers can readily track progress on such key indicators as morbidity (complications arising from surgery) and mortality (death within 30 days of an operation), and can also systematically assess other relevant results, studying in detail the quality of each element of a patient's entire hospital stay. The outcomes reveal how well agreed standards are being met enabling intervention and improvement of every process and procedure involved in delivering first class surgical care for Hong Kong patients.

Each of the three hospitals taking part in this surgical audit database—the Prince of Wales Hospital, Queen Elizabeth Hospital, and Grantham Hospital—has permission to access only the data within its own partition of the database.

Explaining the project, Professor Malcolm Underwood, Chief of Service in Cardiothoracic Surgery at the Prince of Wales Hospital, said today, "We are delighted to be initiating this important surgical audit database. It reinforces Hong Kong's serious commitment to developing a database for surgery in heart disease that is firmly based on international standards yet highly responsive to the particular demographics of the Hong Kong population."

"We are most gratified," Professor Underwood continued, "that the Hospital Authority, in line with its own well established surgical audit database, has agreed to allow automated secure transfer of relevant patient data from its own computerized management system to the new database."

Professor Underwood brings to the project the benefit of ten years' experience with automated auditing systems at the Bristol Royal Infirmary, which was home to the first major advances in the clinical audit of cardiac surgery in the United Kingdom's National Health Service.

Commenting further, Professor Andrew van Hasselt, Chairman of the Department of Surgery at the Prince of Wales Hospital, said, "By meeting, and even surpassing, internationally determined standards for data collection and outcome reporting, we can now objectively evaluate the outcomes of complex procedures and recognize that we are delivering optimal care or not as the case may be. I am excited at the possibilities this offers to further improve standards of surgery in general and benchmark them worldwide. Indeed, at the Prince of Wales Hospital, we have already enlarged the scope of the project by placing data from chest, oesophagus, liver, and colorectal operations on the same platform."

He added, "We are confident that patients will benefit enormously from this surgical audit database in terms of receiving increasingly effective and efficient treatment. In addition, best practice clinical audit will allow Hong Kong surgeons and other health providers to provide patients and their families with even clearer and more carefully formulated explanations about surgical treatments and their likely outcomes."

Professor Sir Bruce Keogh, of The Heart Hospital in London, lecturing this week at the Chinese University of Hong Kong as the David PW Chan Visiting Professor, commented, "Today, cardiac surgical units everywhere are under a professional and moral obligation to provide transparent, valid and reliable statistics about survival rates and other outcomes to patients and to funding sources. The system now in place in Hong Kong allows this to be done on a risk-stratified basis that takes into account the precise patient demographics for each cardiac surgical unit, based on age, severity of illness and other precise measures for each individual patient operated on."

The surgical and administrative procedures for which trends are now being plotted and analyzed cover an extremely wide range, including timing of surgery, re-operation for bleeding, reduction in blood transfusion and mean 24-hour blood loss. Coronary artery bypass grafting has been singled out a "marker" operation for an outcome because it is so commonly performed, has clear and readily reproducible outcomes, and has been internationally analyzed in depth.

The project is both contributing to and profiting from the development of improved risk-stratification systems, helping to create a virtuous feedback cycle of continuous improvement in the field of cardiac and other surgery. As well as benefiting patients and safeguarding resources, the results are being incorporated into clinical governance so that surgeons themselves can monitor and improve the services they provide.

Professor van Hasselt concluded by saying, "In yet another clear benefit, this surgical audit database will soon allow Hong Kong to provide expert clinical audit assistance to the hundreds of cardiac surgical units in Mainland China, where, for example, approaching 100,000 cardiac operations are carried out annually. These units can then put valid and correct reporting methods and mechanisms in place, and a national database for China will come within reach."