# To establish continuous improvement mechanism for healthcare sharing experiences of Changhua Christian Hospital

## Shou-Jen Kuo

Changhua Christian Hospital, Changhua, Taiwan, China Correspondence to: Shou-Jen Kuo. Superintendant, Changhua Christian Hospital, Changhua, Taiwan, China. Email: 40225@cch.org.tw.

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Changhua Christian Hospital (CCH) is the medical center of the longest history in central Taiwan (Figure 1). Originated from the medical clinics started in Changhua Church by David Landsborough from the UK and Rev. Campbell Moody in 1896, CCH has opened up an opportunity to serve people and preaching gospels in the name of Jesus. For more than 100 years, CCH has made many achievements by unremitting efforts. In 1928, Dr. Landsborough harvested the donor skin from his wife who volunteered to offer four pieces of skin, to save an unacquainted critically ill boy. The story of "A Skin-Graft with Love" has come down to us, motivating all medical staffs of CCH to follow their steps. Except for the spirit of loving one another, CCH spares no effort to pursue excellence in medical quality. In the year of 2000, CCH has upgraded to a medical center from a wouldbe medical center, and the number of inpatient beds has increased from 272 in 1978 to 1,742 in 2012, at the same time, the healthcare system has extended from one Erhlin Branch Hospital to seven branch hospitals (Erlin Branch Hospital, Yuan-Sheng Hospital, Lukang Christan Hospital, Lu-Tung Branch Hospital, Nantou Christian Hospital, Yumin Hospital, YunLin Branch Hospital) (Figure 2). There are 3,332 inpatient beds in total in Changhua Christian healthcare system.

In pace with the extension of hospital scale, with the mission of seeking excellence in healthcare quality, CCH invited Mr. John Chadwick of ODI from Australia to launch education on total quality management (TQM) in 1992. CCH is the first hospital that introduces the management system of TQM to carry out TQM, which includes quality control circle (QCC), business process management (BPM), 5S (structurise, systemize, sanitise, standardise, self-discipline), suggestion system and



Figure 1 Changhua Christian Hospital in 1907.

satisfaction survey. CCH always attaches importance to conduct comprehensive patient-centered medical care and to pursue excellence in healthcare quality. Our hospital founded the first "department of healthcare quality" in the country in July of 2000. The promotion of healthcare quality is led by physicians, and the TQM is extended from administrative units to the whole hospital (clinical units included). Meanwhile, the establishment of web platform for healthcare quality and informatization indicators monitoring system provides the new information on healthcare quality, course management, education and training, indicators analysis and statistics via the information platform for our staff and healthcare quality professionals in other organizations with accessible service and transparent management. The informatization indicators monitoring system has successively won CCH the title of Exceptional Benchmarking Hospital awarded by THIS Medical Center of Taiwan College of Healthcare Executives for three years (2009-2011), and has won the Silver Award of Best Oral



Figure 2 The Changhua Christian Healthcare System.



Figure 3 IHI lecturer and Alan Ronald Talbot. Dr. Alan Ronald Talbot is the chief of the department of hospital safety and healthcare quality in CCH, he went to IHI of Cambridge in the USA and passed the PSO certification. IHI, Institute for Healthcare Improvement; CCH, Changhua Christian Hospital; PSO, patient safety officer.

Presentation in 2012 Academic Symposium on Healthcare Quality.

Hospital safety has attracted worldwide attention in recent years, the department of healthcare quality of CCH was renamed department of hospital safety and healthcare quality. CCH has officially included hospital safety into administrative management and has successively won the title of Excellent Benchmarking Hospital of Patient Safety in Healthcare Integration Program of central Taiwan for four years. In March 2012, healthcare quality professionals of CCH were appointed to the Institute for Healthcare Improvement (IHI) of Cambridge in the USA to accept the training for patient safety officer (PSO) (Figure 3), and firstly passed the PSO certification in the country to establish a safer medical environment for patients, their family members, visitors and staff. We all know it is hard to avoid errors or mistakes when people are involved. For example, even if on a smooth road, people may bump into other ones, and they may also fall on the rough ground; as for easily-operated vehicles (bicycles, motorcycles, cars), or more complicated airplanes and cruise ships may cause various disaster by man-made mistakes. Hospitals are dedicated to save lives, doctors, nurses and teams of different departments devote themselves to provide the patients with the best medical care. However, mistakes are still emerging, there are so many retrieval results when we search the keywords "medical malpractice" on the internet.

That is why hospitals must pay attention to healthcare quality. Except for the promotion of healthcare quality, man-made negligence should be decreased and avoided to prevent damages caused by medical malpractice and to further provide the guarantee for patient care. We are confronted with the "current status of healthcare" while pursuing the "ideal quality", just like the two ends of one bridge. Hospitals must endeavor to bridge over the two ends to cross the chasm. The implements for "bridging" are patient safety, effective, patient-centered and timely treatment, efficiency and fairness. Currently, CCH lays emphasis on the following levels of healthcare quality and safety: team resource management (TRM) to build rapid response team (RRT), patient safety education Annals of Translational Medicine, Vol 2, No 4 April 2014



**Figure 4** Patient care model registered by CCH. CCH, Changhua Christian Hospital.

and effect evaluation for hospital supervisors, personal workload management, staff health management and fatigue monitoring, investigation and improvement on medical adverse events, public representatives' participation in discussion of patient safety, prospective risk assessment and analysis, and simulation practice. Furthermore, ACLS strategy is applied to continuously improve healthcare quality: internationalization of healthcare quality-accreditation, informatization of healthcare quality-cloud, streamlining of healthcare quality-leanness, corporatization of healthcare quality-share.

Internationalization of healthcare quality (accreditation) is to get the international accreditations and to keep updated on the tendency of international standards on healthcare quality. CCH has achieved many international accreditations, and was accredited by the highest standards of international hospital accreditation, Joint Commission International (JCI) Medical Appraisal Standard, in 2008 and 2011. Department of Medical Genetics, Center for Reproductive Medicine & Infertility, Department of Pathology and Laboratory Medicine of CCH were all accredited by the largest institution of clinical laboratory accreditation in the USA, College of American Pathologists (CAP), and passed the renewal accreditation in 2012. The patient-centered medical care team of CCH makes sustained efforts, and has reached the JCI-Clinic Care Program Certificate (CCPC) standards in chronic kidney disease and DM in 2010, becoming the first institution in the country and the fourth worldwide certified by CCPC. Until now, CCH has gained six CCPC (CKD, HIV/AIDS, DM, COPD, Asthma, Primary Stroke), and the healthcare quality of CCH has reached an international level. In future, we are going to face all challenges to come up to a

higher level medical care quality of whole person.

Informatization of healthcare quality (cloud) is to form horizontal alliances to open a new era of cloud medical service. CCH has also cooperated with Industrial Technology Research Institute to form the Tele-health Service Alliance, so as to provide all-around medical service by combining medical care, service, medication, nutrition, clinical teaching and research, and to ensure that the public has access to related information and consultation. With regard to the medical care of diabetes mellitus, CCH initiated an innovative mode of Internet service. Tele-health Service Center, to provide a long-term healthcare platform for patients with chronic DM, and immediately acquire health status of the patients. This service is duly recognized by the government, and won the Award for Outstanding Achievement in Telecare. CCH is designated by the Department of Health as the executive team of tele-health service in central Taiwan, and won the National Biotechnology & Medical Care Award (Bronze Medal) in 2012 for its remarkable medical care of DM. Gradually CCH has become the landmark hospital of tele-health service.

Streamlining of healthcare quality (leanness) is the patient-centered integration of medical resources for overall patient care. CCH focus on patients care and provides teambased medical care for whole person, whole team, whole family, whole process, and whole community (Figure 4). The CCH healthcare team for whole person consists of doctors, nurses, pharmacists, social workers, rehabilitation therapist, caring physicians, dietitians... When patients come to our hospital, a professional evaluation will be conducted by medical professionals and nurses at first. If there is need for cooperation of multidisciplinary teams, the whole person healthcare will be started, a comprehensive medical care plan will be established by the discussion of the whole team according to patients' needs. The member of the team will provide consistent and excellent medical care during the whole course by means of physical-mental-spiritual healthcare, treatment of the disease, health education, and discharge planning service. When patients are discharge from the hospital, the community health centers and hospice home care team will deliver safe and satisfying home care. Therefore, patients can get the most comprehensive and high-quality healthcare during hospitalization to hospital discharge, even post-discharge to the community.

Corporatization of healthcare quality (share) is to share medical skills from the starting point of love, and to eventually promote the overall quality of medical care. In memory of Dr. Landsborough, CCH has started

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international medical service since 2004 to further carry forward the spirit of humanistic love. CCH firstly went to Papua New Guinea for medical support and undertook permanent medical missions of Swaziland and Sao Tome and Principe in 2008 and 2009. Since 2006, CCH also went to St. Lucia, St. Vincent, Myanmar, Mongolia, Vietnam, Papua New Guinea and Thailand for short-term medical service. To elevate the medical level of friendly countries, CCH has conducted trainings for medical personnel of other countries since 2006, including Papua New Guinea, Swaziland, Sao Tome and Principe, St. Vincent, St. Lucia, Thailand, Indonesia, Mongolia, and Vietnam. Moreover, we have cooperated with the medical systems division of Far East Horizon (Far East), based on our advantages of medical care administration and Far East's superiority of investment management on the Chinese Mainland, to work on the improvement of advisory service on operation, business consultation, capital, program and investment of medical institutions, for the goal of an all-win situation.

In order to meet the current and future needs of trainings for medical care, medical affairs, administration and management, the newly-built Fumao Building of the main hospital has business suites, sports center, banquet hall, coffee bar and international training center to provide

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comprehensive service at a reasonable price. A tiny seed David Landsborough and Rev. Campbell Moody sowed in Taiwan has branched out to spread the love. The abovementioned general information and blueprint about CCH is just the representation of "CCH reaching out and opening its doors to the world". There are still innumerable challenges ahead, especially in the age of Internet and information, the rapid dissemination of information is the assistance, at the same time, may be the resistance to medical care. It is easy for the public to learn the good healthcare service of a hospital, as well as medical accidents. Therefore, healthcare quality has gradually turned into one of the foundations of a hospital with increasing importance. CCH would like to share some experience in healthcare quality management which we hope will be of some benefit to the development of medical care. CCH is willing to working together with all organizations to promote healthcare quality in the world.

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