How IT Changed the Healthcare Industry?
By Hong Kong International Computer Conference

Dr. Wong Chun Por

She fainted after a car accident. A HKID card was found in a purse, her name is Mary Grand, ID number is Y123456, 66-year old, head injury, and left shoulder might be fractured.....

While the policeman was reporting information for the purposes of admission and diagnosis, the patient's past record was instantly shown on the screen of the computer after inputting her name and ID number. Healthcare professionals at the emergency room immediately made decisions according to the information shown.

Can you imagine what would have happened in a similar case 20 years ago when information technology (IT) seemed totally irrelevant to the healthcare industry? As it took almost an hour for healthcare professionals to check and confirm the patient's record (which was, of course, in paper form) with concerned public hospital or clinic before making the decision for appropriate treatment, her life might have been lost due to the delay.

The great advancement of IT has dramatically changed the modern world. From the case above we could see what an important role IT plays in the Health industry. Witnessing this big trend, Hong Kong Computer Society (HKCS) specially holds a session in Hong Kong International Computer Conference 2011 (HKICC2011) to examine indepth the computerized clinical information systems in Hong Kong. And Dr. Wong Chun Por, Chief of Service (Integrated Medical Services), Ruttonjee Hospital and Tang Shiu Kin Hospital, is invited to give us his insights for brief preview.

"IT has changed the entire healthcare industry. With the advance of information technology, doctors nowadays can react as fast and accurate as they can to save people's lives," said Dr. Wong. "Especially the electronic patient record sharing system, it helps doctors provide timely and accurate information for care, reduce duplication of tests and treatment, reduce errors associated with paper records and prevent front-line staff from giving wrong or overdose medicines," he continued.

The electronic patient record sharing system was introduced to Hong Kong in 1991. The Hospital Authority (HA) has been upgrading and enhancing its infrastructure and features phase by phase, step by step over the past 20 years. For example, the system had been upgraded to provide patient records sharing among 40 hospitals and 120 out-patient clinics under HA in 2000. In 2006, HA rolled out the Electronic Patient Record Sharing Pilot Project (PPI-ePR) and the one-way sharing from public to private sector was also launched. Participating private healthcare providers and other registered institutions are authorized to view their patients' medical records kept at the HA, subject to the patients' consent. Up to June 2011, the PPI-ePR pilot has thus far enrolled over 153,000 patients and 2,250 private healthcare professionals. Over 248,000 numbers of ePR accesses have been made by the participating private hospitals and other private or non-governmental organizations providing services related to healthcare, such as residential care facilities and community centers. According to HA's roadmap, two-way sharing (public-private) is targeted to be realized by 2018.

Not only can the patients benefit from information technology, but also the managements in healthcare industry. With IT system, all information including hospitals and clinics workload, drug usage, bed vacancy etc. can be in hand in one minute with one click.

"Information is not only saved and circulated in the system, but also analyzed by the system. Certainly, it helps us become more efficient in resources allocation. For instance, the managements can easily get a full picture of drug cost as well as its usage. If there is a drug widely given out to patients for some reasons, they will immediately calculate how much money can be saved by using a substitute," Dr. Wong said.

In addition, the society also benefits from IT in terms of the health care that it receives. IT helps improve disease surveillance and monitoring of public health as well as helps gather more comprehensive statistics for formulating public health policy. Dr. Wong cited two examples of how IT helped researchers and healthcare professionals in finding out the sources of epidemic diseases.

"Remember the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003? Healthcare professionals gathered and analyzed all the information from different hospitals and clinics and found that most of patients infected with SARS were from Amoy Gardens. With the solid evidence that the system shown, the government and related departments immediately reacted and moved all residents of Block E to Lei Yue Mun for isolation."

For the other example, "several patients who died in public hospitals were found to have gastrointestinal mucormycosis in their bodies. At a short period of time, medical professionals were able to reveal that one of the pharmaceutical products prescribed to the patients was contaminated. We got a list of 30,000 patients who were prescribed that product in one hour through the IT system. Among those, 2000 patients fell into the high risk group. We at once contacted them in person and stopped them from taking the product," he explained.

In the past, no one could imagine that our lives and healthcare services would become inseparable from information technology as it is now. Definitely, IT has changed the ways of diagnosis and treatments. The progress is just beginning. The healthcare services that we receive will be much better, safer and more accurate with the continuously evolving information technology. In HKICC2011, professionals and government officials from the Health sector will share their views and visions about the next generation of electronic / patient record systems.

Members of HKSMI are welcomed to join HKICC2011 and enjoy a special discount. Don't miss the chance! For more information regarding HKICC2011, please visit http://hkcs.org.hk/hkicc/2011.