MIMS Healthcare Data becomes platform for idea exchange on IT and patient safety in Malaysia

The inaugural MIMS Healthcare Partners Summit 2018, with the theme of 'Safer healthcare in the digital age,' brought together thought leaders from public and private healthcare organizations as well as health technology companies to exchange and develop ideas on how to shape the future of IT and patient safety in Malaysia.

SARAS RAMIYA

Improving patient outcomes with CDSS

MS NIKKI NG
Deputy Managing Editor
MIMS

Clinical decision support system (CDSS) is a computerized system that uses case-based reasoning to assist and support clinicians in assessing disease status, making a diagnosis, selecting appropriate therapy or making other clinical decisions. [Jao CS (ed). Decision Support Systems. 2010]

Ms Nikki Ng

Clinical decision support (CDS) is a process for enhancing health-related decisions and actions with pertinent, organized clinical knowledge and patient information. [HIMSS 2011] Five rights for clinical decision support include evidence-based information with the correct recommendations directed to the right target audience in the right format through the right channel and most importantly, at the right point in workflow. [*Yale J Biol Med* 2014;87(2):187–197; *J Healthc Inf Manag* 2009;23(4):38–45]

Although CDSS has been shown to reduce medication error, challenges remain in implementing it in hospital systems. CDSS can introduce new types of error including duplication and 'drop-down list' errors. Interoperability and standardization across different hospital information systems at national and international levels are questionable. Alert fatigue ie, too many alerts, may reduce clinicians' adherence to the CDSS recommendations.

To address the challenges of CDSS, smarter alerts need to be developed by adding patient-specific factors to algorithm for more contextual alerts. Customizing CDSS to include trigger alerts for specific areas also seems useful. [*PLoS One* 2016;11(12):e0167683; *Aust Health Rev* 2017;41(6):646–664; *Am J Health Syst Pharm* 2018;75(4):239–246]

Pharmacy Information System to be completed in 2019

MR ADAM MOHD ALIAS
Senior Principal Assistant Director
Pharmaceutical Services Programme
Ministry of Health, Malaysia

The Health Ministry's Pharmacy Information System (PIS) consists of Pharmacy Hospital Information System (PhIS) and Clinic Pharmacy System (CPS). This mammoth project undertaken by the MOH kicked off in 2011 and expected to be completed in 2019.

Mr Adam Mohd Alias

The joint mission of PhIS and CPS is to endorse the National Medicine Policy to ensure the quality, safety and efficacy of drugs as well as availability and affordability of drugs. In line with the National Key Results Areas (NKRA), PIS is hoped to help to transform the health sector by creating a more efficient and effective health system in ensuring universal access to healthcare. A single standardized system can help to ensure patient safety, optimize the use of resources, improve efficiency and response time and prevent unnecessary cost.
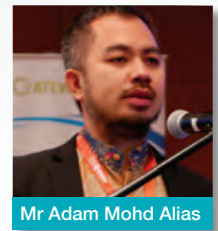
Over the past 3 years and as of June 2018, PIS has been implemented nationwide in 142 hospitals, 999 health clinics, 15 state health departments, 140 district health departments as well as eight logistic centres in Sabah and Sarawak.

PIS incorporates screening, keying in and filling of prescription and dispensing of drugs for outpatients; clinical pharmacy and radiopharma-

cy activities and dispensing of drugs for inpatients as well as budget planning, procurement and distribution for store management.

Benefits of the PIS include security features, real-time integrated services, sharing of information and close monitoring of pharmacy and inventory management. These features have contributed to patient safety and risk reduction; timeliness, cost saving as well as efficiency.

The biggest challenge in PIS is the significant budget constraint especially for infrastructure and system maintenance. Other challenges that need to be overcome include policy and procedures, cost and human resources.

An innovative journey with KPJ

MR ERIC SIM KAM SENG
Chief Information Officer
Information Technology Services
KPJ Healthcare Bhd

KPJ Healthcare has progressed much since its beginnings 36 years ago to the present number of 25 hospitals in Malaysia, two in Indonesia and one each in Bangladesh and Thailand with a total number of 13,422 employees including 1,022 medical consultants.

Factors that contributed to the success of KPJ Healthcare include increasing demand for private healthcare, sustainable development of professional talent pool, strong clinical governance framework, excellent facilities and most importantly, innovation and technology.

Mr Eric Sim

With regard to innovation and technology, KPJ Healthcare is currently involved in integrating all its hospitals with one hospital information system (HIS). KPJ Healthcare has been working with MIMS and utilizing the Clinical Decision Support and Drug Database for the last 5 years.

With the backing from KPJ Corporate IT, the 'KPJIT towards Industry 4.0' was launched and involved cloud computing, augmented reality, big data, autonomous robots, simulation, additive manufacturing, cybersecurity, internet of things and system integration.

The success of KPJ Healthcare's system is a result of most doctors using the system and providing feedback on the system for further improvement. Most of the workforce particulars as well as medical and patient records were streamlined and converted into digital format. They have started to explore robotic process automation from front end customer service to back end surgical instruments.

In terms of cybersecurity, smart IDs have been created to securely and accurately store patients' clinical information and access to patients' records were only available to authorized individuals.

The shift to digital health

MR LEON JACKSON
Chief Technology Officer
Strateq Group

Strateq is a healthcare IT provider with 25 years' experience and serves 17 private and six public hospitals in Malaysia and has also ventured into the US.

The biggest change in the last

20 years with regard to healthcare IT is the shift from hospital information systems to the concept of electronic health records (EHR).

Now, the concept of digital health is gaining popularity among consumers. Using apps to engage with patients can help hospitals measure patient experience and obtain their feedback via surveys.

Mr Leon Jackson

The dream of creating the next Facebook or Google of healthcare is akin to looking for a unicorn—it is not likely to exist—because for most healthcare providers there is only so much they can do for their patients. Instead, healthcare providers can aim to improve their services by a certain measure.

For example, Kaiser Permanente engage with patients and at the same time try to improve patient engagement by 10 times.

Many clinical apps will become the norm and most healthcare groups will start providing these services for their patients. Ultimately, patients tend to choose providers and not apps.

Innovation and technology push in a certain direction eg, mobile phones and cloud computing, and market pull eg, consumer demands, are factors involved in clinical apps.

According to the UK's National Health Service, any patient engagement framework should be easy to use, timely, social and attractive in addition to quality and safety.