



## PRESS RELEASE

4 September 2017  
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### **HIMSS-Elsevier Digital Healthcare Award Asia Pacific 2017 Recognizes Four Hospitals for Innovative Use of Technology to Improve Patient Care**

*Healthcare delivery in APAC rapidly evolving as organizations embrace digital initiatives*

**Singapore, 4 September 2017** – HIMSS Asia Pacific and [Elsevier](https://www.elsevier.com) are proud to announce the winners of the fifth **Asia Pacific HIMSS-Elsevier Digital Healthcare Award 2017**. This highly anticipated Award recognizes outstanding achievements and innovations globally in the usage of health information technology. This year, submissions were received from eight countries for the two categories – ‘Outstanding ICT Achievement’ and ‘Outstanding ICT Innovation’. Deploying cost-effective innovations that have wide-reaching impact on patient care, particularly in countries with rural populations, is a highlight in some of the submissions.

Overall, the four winners from hospitals in China, India, Australia and Taiwan – all first-time recipients – demonstrated how their innovative use of information communication technology (ICT) has improved patient care.

“Asia Pacific is truly pushing the envelope on innovation when it comes to healthcare information and technology. Over the years, I’ve consistently seen an impressive quality of submissions that deliver real impact to their institution and patients. This year, we are seeing an increasing trend of mobile health (mHealth) and telehealth submissions, signifying an evolution in APAC’s eHealth ambition,” said Dr. Peter Edelstein, Chief Medical Officer for Clinical Solutions for Elsevier in Europe, Middle East, Africa, Latin America, and Asia Pacific. “Elsevier would like to congratulate all the winners and nominees who have developed ways to drive efficiencies, and improve the quality of care. Together, we believe that the deployment of technology combined with evidence-based information can go a long way to achieve positive healthcare outcomes.”

#### ***Outstanding ICT Achievement Award Winners***

The Outstanding ICT Achievement award recognizes hospitals that leverage technology to achieve substantial improvements in patient care and safety, and have addressed major challenges faced by their institution. The winners of this year’s ICT Achievement award are **The Royal Children’s Hospital Melbourne, Australia**, and **Fudan University Huashan Hospital, China**.

In April 2016, the Royal Children’s Hospital Melbourne became the first Australian hospital to implement the Epic system and transit to a hospital-wide Electronic Medical Record (EMR) system in one day, and launched a comprehensive patient and family portal as part of its EMR. Apart from that, they have also achieved outstanding results by decreasing costs, reducing unwarranted health screenings, and increasing revenue.

The other winner of the ICT Achievement award, Fudan University Huashan Hospital, developed an information system for individualized dosage regimen of specific drugs, which was deployed on the hybrid cloud environment and integrated with on-premises patient data.

The category this year received a wide variety of submissions from Japan, Australia, Singapore, Thailand, and China. The projects exemplified excellent usage of technology, from data analytics to caesarean section care, infection controls and telehealth.

### ***Outstanding ICT Innovation Award Winners***

The Outstanding ICT Innovation category recognizes the most innovative and creative ICT solutions that improve patient care and safety. The nominees for this category shared excellent best practices and case studies on how creatively implemented solutions can improve processes and drive better, more effective outcomes for patients in a short period of time. The two winners this year are **MacKay Memorial Hospital, Taiwan** and **Aravind Eye Hospital-Pondicherry, India**.

MacKay Memorial Hospital in Taiwan clinched a winning spot for their submission, 'mHealth Innovation through Practice Redesign for a Patient-Centered Medicine in Taiwan'. The aim of this project was to develop a culturally tailored patient-centered mHealth program that empowers patients to better manage their medication and health information, while facilitating collaborative patient-physician interactions.

The other winner is India's Aravind Eye Hospital-Pondicherry, whose submission, 'Fundus on Phone for Rural Eye Care' demonstrated how using smartphones in healthcare can provide greater access to healthcare and lead to cost savings. With the Remidio camera, AEH-Pondicherry will be able to image at least 10,000 diabetic patients per year, many of whom live in impoverished villages. One of the key benefits of the Remidio camera is its low cost price of 0.03 USD, compared to conventional cameras (0.31 USD).

The applications were judged by a panel of five esteemed judges: John Daniels, Global Vice President, HIMSS Analytics; Dr. Peter Edelstein, Chief Medical Officer for Clinical Solutions for Elsevier in Europe, Middle East, Africa, Latin America, and Asia Pacific; Adj. A/Prof. Gamaliel Tan, CMIO, JurongHealth Services, Chair of the HIMSS AsiaPac17 Organizing Committee; Dr. Manish Kohli, Director of Medical Informatics, Cleveland Clinic Abu Dhabi; Governing Council Member, HIMSS Asia Pacific, and Dr. Zhaohui Lu, Chief, Hospital President's Office & Associate Professor, Department of Thoracic and Cardiac Surgery, Shanghai Children's Medical Center, China.

"Since the launch of the Award in Asia four years ago, the HIMSS-Elsevier community has grown from seven submissions to becoming a global platform across three continents today. This successful partnership has recognized the innovations of international hospitals through projects that together have impacted more than 41 million patients worldwide to-date. Hopefully, the learnings gleaned from the winning projects can enable more organizations to implement real change themselves through the use of healthcare information technology," said Steve Lieber, President and CEO, HIMSS.

This year, a third category was introduced to the HIMSS-Elsevier Digital Healthcare Award – the CMO of the Year Award. Nominations are currently under review by a judging panel. The winner will be announced at the HIMSS-Elsevier Digital Healthcare Award Dinner on 11 September.

In addition to the awards presentation, past winners have also been invited to share the impact of their innovations at the dinner event. Adj. A/Professor Gamaliel Tan, Chief Medical Informatics Officer & Head of Orthopaedics, JurongHealth Campus, National University Health System,

Singapore, said, “Ng Teng Fong General Hospital was honored to receive the HIMSS-Elsevier Digital Healthcare Outstanding Achievement Award for Project OneCare in 2016. Our vision then and now, is to transform healthcare, empower patients and bring health to every home. Leadership was core to holding this vision and mission central for all our 3,000 staff members from procurement to implementation, go-live, and post-live optimization. At the same time, strong end-user support, training and buy-in built a solid foundation for successful transformation. We look forward to sharing our journey at this year’s HIMSS-Elsevier Digital Healthcare Award Dinner.”

HIMSS AsiaPac17 will be held from 11 – 14 September 2017 with the main conference taking place on 12 and 13 September. Registration for the main conference is open until 12 September 2017.

More information can be found at

<https://www.himssasiapacconference.org/ehome/199357/449116/>

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## **About HIMSS**

HIMSS is a global voice, advisor and thought leader of health transformation through health IT with a unique breadth and depth of expertise and capabilities to improve the quality, safety, and efficiency of health, healthcare and care outcomes. HIMSS designs and leverages key data assets, predictive models and tools to advise global leaders, stakeholders and influencers of best practices in health IT, so they have the right information at the point of decision. Through its health IT network of over 1 million experts, over 200 knowledge exchanges and collaborations, including 68,000-plus members, HIMSS drives innovative, forward thinking around best uses of technology in support of better connected care, improved population health and low cost of care. HIMSS is a not-for-profit, headquartered in Chicago, Illinois with additional offices in North America, Europe, United Kingdom and Asia. [www.himssasiapac.org](http://www.himssasiapac.org)

## **About the HIMSS-Elsevier Digital Healthcare Award**

The HIMSS-Elsevier Digital Healthcare Award is a global platform to recognize outstanding achievements and innovations in the usage of health information and technology, to advance patient care and safety. Established in 2013, it is held annually across Asia Pacific, the Middle East and Europe.

## **About Elsevier**

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## **Appendix 1 – Winning project citations and executive quotes**

### **Outstanding ICT Achievement**

#### **EMR Project Case Study: The Royal Children's Hospital Melbourne (Australia)**

**Overview:** The Royal Children's Hospital (RCH) is a major specialist pediatric hospital in Victoria extending care to children from Tasmania, southern New South Wales and other states around Australia and overseas. They are also the designated state-wide major trauma center for pediatrics in Victoria and a Nationally Funded Center for pediatric cardiac, liver and lung transplantation, as well as treatment of hypo-plastic left heart syndrome.

In April 2016, the RCH, a hospital in Australia that implemented the Epic system, achieved a series of firsts – transitioning to a hospital wide EMR in one day, and launching a comprehensive patient and family portal as part of its EMR. Included within this Go Live was integration to hospital monitoring equipment, mobile apps for clinicians, and external provider portal and integration to Australia's national health information exchange platform – My Health Record.

#### **Benefits and Outcomes:**

- 5.9% reduction in medication expenditure on non-reimbursable drugs
- 10% increase in private inpatient revenue
- 5% increase in outpatient revenue
- 84% decrease in transcription costs \*\*
- 2.5% reduction in medical imaging examinations \*\*
- 1.79% reduction in pathology tests \*\*
- 6% increase in children, overdue on their immunization schedule are immunized during an inpatient stay

*\*\*These reductions were seen despite an 8.9% increase in overall patient throughput.*

#### **Quote from Winning Organization:**

"The success of this implementation is linked to the active engagement of more than 4,500 staff across all sections of our hospital, along with our patients and families. We drew on our internationally-recognized suite of clinical practice materials and embedded them into a cutting-edge system which we have continued to enhance and refine. In just 12 months, we have achieved both HIMSS EMRAM and O-EMRAM awards concurrently – the first hospital in Asia Pacific to achieve this recognition. Our patients and the quality of care we deliver remains at the forefront of everything we do, as this is evidenced in our implementation of the Epic system. We are honored to receive the title of Outstanding Achievement at the HIMSS-Elsevier Digital Healthcare Award. This global recognition is testament to the vision and commitment of our team and our continuing goal of being a great children's hospital, leading the way internationally," said Mr. John Stanway, Chief Executive Officer, The Royal Children's Hospital Melbourne, Australia.

**Design and Application of A Cloud-Based Individualized Drug Administration Platform:  
Fudan University Huashan Hospital (China)**

**Overview:** Individualized drug administration could maximize the therapeutic benefit of a given drug to the patient with the most appropriate dosage while minimizing or avoiding adverse drug reactions (ADR). At present, the recommended dose of drugs is the average dose of the population, only a small number of drugs using the recommended dose can achieve satisfactory results. The use of pharmacokinetic principles to develop individualized drug regimen has been widely accepted and used by clinicians.

The objective of the platform is to develop an information system for individualized dosage regimen of specific drugs (e.g. vancomycin, carbamazepine, warfarin) through prediction based on population pharmacokinetic models followed by revision with Bayesian forecasting estimation. The solution is deployed on the hybrid cloud environment, while integrating with the Computerized Physician Order Entry as a Clinical Decision Support System tool. It has direct access to the on-premises Cloud-Based Individualized Drug Administration Platform for patient demographics and clinical data.

With this solution in place, it could maximize the therapeutic benefit of a given drug to the patient with improved drug efficacy, reducing adverse reactions and side-effects of drug toxicity.

**Benefits and Outcomes:**

- The individualized drug administration platform optimized the workflow of Therapeutic Drug Monitoring (TDM), so that the clinicians can:
  - Receive a more accurate individual blood drug concentration prediction in the early stage of drug administration, and have the capability to adjust the drug regimen in time
  - Be provided with clinical decision support for making the best decision for each drug recommendation
- The platform has also improved the accuracy of blood drug concentration prediction from 70% to 99%, while the entire calculation is shortened from two days to half a day.

**Quote from Winning Organization:**

“The aim of the ‘Cloud-Based Individualized Drug Administration Platform’ we developed was to have an information system for individualized dosage regimen of specific drugs based on a predictive model. Since implementation, the platform has improved the accuracy of blood drug concentration prediction from 80% to 99%. This solution is directly improving care outcomes by enhancing drug efficacy, reducing adverse reactions and side-effects of drug toxicity,” said Hong Huang, Chief Information Officer, Fudan University Huashan Hospital, Shanghai, China.

## **Outstanding ICT Innovation**

### **mHealth Innovation through Practice Redesign for Patient-Centered Medicine in Taiwan:**

#### **Mackay Memorial Hospital (Taiwan)**

**Overview:** The purpose of the project is to develop a culturally tailored patient-centered mHealth program that empowers patients to better manage their medication and health information to facilitate medication adherence and therapeutic outcome through a collaborative patient-physician interaction without having to change the structure of distinct hospital information system (HIS) in each hospital.

The novelty of this system allows patients to easily manage their medication and health-related recordings without causing additional burdens of existing HIS. A mobile solution incorporating the implantation of a QR code system into hospital's medication prescribing process was designed so that a simple scan of the QR code on drug packaging or prescription notes would spontaneously bring the name, dosage, frequency and duration of every drug into the mobile App and automatically set up alarm reminders for every individual medication.

The project also bypasses the existing language barrier and complexity of data input posed to non-English speaking users.

#### **Benefits and Outcomes:**

- The project recruited a total of 25,909 users with an average 7-days active users of 500 persons and 7-days retention rate of 15.4% ( $\pm 3.9$ ) in the five-month implementation period.
- Users preferred to scan the drug packaging as a way to register their medications in the App rather than the prescription note
- Medication information surfing behavior via the App gradually increased by time, reaching 3,445 times at the fifth month of the pilot suggesting that more patients were familiar to the system as a channel to acquire their medication knowledge.
- Google star rating was 4.493 points out of 5 and the comment from the users have been positive, for example: "The App was a useful tool for me because I could inquire the function of my drugs and record my symptoms when I was uncomfortable."  
Physicians are now able to track trends of medication completion rates. The data around patient medication utilization can act as valuable information for hospital administrative quality improvement measures and for further policy-making.

#### **Quote from Winning Organization:**

"In order to empower our patients, we believe that we need to understand their behavior and needs first. Thus, culture was the foundation upon which our mHealth innovation was developed. Since its implementation, this innovation has been rated 4.493 out of 5 by our users with many positive comments about how the innovation has enabled them to enquire about the function of their drugs, record symptoms and so on. Our physicians are now also able to track the trends of medication completion rates. This project is cost-effective, sustainable and most importantly, improving care delivery in ways we have never seen before," said Dr. Huang Ming-Yuan, Digital Health Innovation Leader and Dr. Yeh Hung I, Vice Superintendent, Mackay Memorial Hospital, Taiwan.

### **Remidio Camera for Chronic Eye Problems: Aravind Eye Hospital-Pondicherry (India)**

**Overview:** Chronic eye problems like glaucoma, diabetic retinopathy (DR) and age-related retina problems present a serious health threat in rural India. The blindness caused by these ailments is irreversible, thus it is more important to screen for these conditions as early as possible. Screening for glaucoma and DR requires highly skilled ophthalmologists and often expensive equipment, a challenge in rural settings.

Aravind has developed a sustainable diagnosis and communication system that would allow quick and accurate identification of high-risk patients through fundus exams. AEH-Pondicherry has pioneered the use of the Remidio fundus cameras in rural vision centers where moderate-skill level technicians can screen for these devastating eye conditions. The Remidio camera is lightweight, completely portable and costs less than 2 lakh rupees as opposed to conventional cameras which are heavy, not portable and cost more than 20 lakh rupees. Moreover, the image quality of the smartphone imaging device has been found comparable to high end, non-portable desktop systems. With this, AEH-Pondicherry will be able to image a minimum of 10,000 diabetic patients per year, most of whom are impoverished villagers with otherwise no access to any form of health care.

Through effective technology usage we can connect patients to ophthalmologists in the base hospital. The implementation of this innovative technology has allowed Aravind's vision centers to increase detection rates of posterior segment problems. This method not only is accurate, but it is also highly cost effective, benefiting individuals who otherwise may not receive medical screening. Only through the use of low-cost and accurate technology will we be able to make high-quality healthcare accessible to underserved populations.

#### **Benefits and Outcomes:**

- Low cost alternative Remidio (0.03 USD) compared to conventional camera (0.31 USD)
- Ability to image a minimum of 10,000 diabetic patients per year, most of whom are impoverished villagers with otherwise no access to any forms of healthcare
- 10% (1,000 patients) prevention of vision lost out of more than 100,000 diabetics patients annually
- High financial sustainability and the possibility for implementation in a high volume of vision centers
- Low training cost for technicians

#### **Quote from Winning Organization:**

"Our innovation of using the 'Fundus on Phone' – Remidio camera as a low-cost alternative for capturing fundus images in rural vision centers has already impacted an average of 10,000 diabetic patients living in south India's impoverished villages. We are delighted to be recognized for our efforts at the HIMSS-Elsevier Digital Healthcare Award 2017. This Award does not only validate our team's hard work, but it highlights the importance of sustainable innovations in underdeveloped countries with little to no access to care. We hope that our story will inspire developing countries and other hospitals to continuously innovate to improve care for their populations. It does not have to be expensive to be effective," said Dr. R. Venkatesh, Chief Medical Officer, Aravind Eye Hospital-Pondicherry, India.