Manila, Kuala Lumpur and Bangkok Pre-Conference Roadshows 2016

HIMSS Asia Pacific has taken its pre-conference roadshows to Manila, KL, and Bangkok this year. The Manila and KL roadshows ran on 24 May and 26 May respectively. Bangkok, the exciting city where HIMSS AsiaPac16 will be held later this August, hosted the final roadshow on 16 June. What were the key messages shared to prepare audiences for the upcoming annual event?

This report contains:
1. Key takeaways from Manila and KL roadshows
2. In-depth review of Bangkok roadshow panel discussions

Key Takeaways from Manila (24 May 2016) and KL (26 May 2016)

At the Manila and Kuala Lumpur stops, we saw the following line-up:

- Electronic Medical Records Adoption Model (EMRAM)
- Cybersecurity in Asia Pacific
- Forward Moving Digital Technologies

EMRAM & Patient Engagement

Mr. John H. Daniels, Global Vice President of the Healthcare Advisory Services Group for HIMSS Analytics at HIMSS, made it clear from the start that he would be making a value proposition. While there are 7 stages in HIMSS’ EMRAM, the push is to take it all the way to Stage 7 – complete EMR and Data Analytics to improve care.

Strong and Obvious Advantages

WHY Stage 7? Evidently, the benefits are plenteous. Daniels provided supporting data including correlation studies. Visual graphics, from histograms to line graphs, illustrated how reaching Stage 7 made stark differences in several aspects.

<table>
<thead>
<tr>
<th>Category</th>
<th>Stage 7</th>
<th>Stage 6</th>
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<tbody>
<tr>
<td>Quality</td>
<td>30.1%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Safety</td>
<td>62.6%</td>
<td>30.8%</td>
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<tr>
<td>Performance (Clinical)</td>
<td>43.7%</td>
<td>49%</td>
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<tr>
<td>Profits (Financial)</td>
<td>Average operating margin saw dramatic jumps between Stage 6 and Stage 7 of about 5 percentage points to 8 percentage in the years 2011, 2013 and 2015.</td>
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In Addition

It must also be added that for heart attack and respiratory therapy cases, high EMRAM environments experienced mortality rates at least 5 percentage points lesser than low EMRAM environments.

Better Quality and Safety

Quality and safety are closely inter-linked. A safer hospital is a better hospital. The charts move in a downward trend over time. These are the rates which had been going down in Stage 7 hospitals:

- 30.1 percent of Stage 7 top performing hospitals excelled in 4 or more quality metrics.
- 62.6 percent of Stage 7 hospitals achieved “A” Leapfrog Hospital Safety Grade.
- Average projected VBP scores ranged between 43.7 percent and 49 percent during Stage 1 to 6 where it hit a tipping point and shot to 64.3 percent at Stage 7.

If we apply inductive reasoning, it could be surmised that Stage 7 represents a quantum leap from Stage 6 in terms of:

- Quality
- Safety
- Performance
- Profits

It must be added that for heart attack and respiratory therapy cases, high EMRAM environments experienced mortality rates at least 5 percentage points lesser than low EMRAM environments.
Enhanced Performance

This time round, the charts move in an upward trend over time for:

- Higher Venous Thromboembolism (VTE) Prophylaxis Compliance Rate
- Increased Time Savings and Staff Efficiency in Breast Milk Bar Code Scanning
- More Lives Saved and Ventilator-acquired pneumonia banished under the critical care telemedicine category
- Faster response rate in terms of antibiotics given within one hour

Stage 7 hospitals experience greater efficiency and effectiveness, as well as save more lives.

Key Learning Point

As the dimensions of quality, safety and performance improve, so will the profits. Stepping up to EMRAM Stage 7 signifies a level up where it counts.

Healthcare Cybersecurity

Multiple Challenges Facing Healthcare ICT

Though rapid, the adoption of health ICT and digital health technology has been fragmented. With malware hitting healthcare, it seems to suggest that the more hi-tech an establishment becomes, the more vulnerabilities it has.

The current environment is rigged with questionable standard vendors, products, services and systems. And yet, it is the governance is weak with insufficient regulation.

Dr. Piravej pointed out that there was under-investment in health ICT human resources while users lack awareness and a sense of urgency.

He believed that healthcare ICT faced many challenges beyond these.

The picture does look gloomy. Medical devices are targeted by hackers and malware, threatening patient safety.

Doomsday is possible should the health system be forced to shut down because of threats and damages to healthcare ICT.

“One Risk Management Strategy”

Dr. Piravej proposed a “One Risk Management Strategy”. The term suggests a unified and concerted effort in tackling threats to healthcare ICT; and all threats should be treated as a single risk.

He advocated creating a healthcare security taskforce to fight threats better.

We have to do all we can to avoid going back to paper-based analog systems in order to lock away data safely.
Forward Moving Digital Technologies

Also speaking at the Kuala Lumpur roadshow was Mr. Thillai Raj, Chief Technology Officer, MIMOS Bhd, which was the Research & Development centre under Malaysia’s Ministry of Science, Technology and Innovation (MOSTI). On the issue of security, Mr. Raj spoke about using multi-factor authentication including connectivity-independent authentication method via smartphone security.

Monitoring Aided by Solar Power

To improve connectivity, Malaysia is harnessing abundant solar energy to power its WIFI sensor-based monitoring cameras. The information collected is disseminated to various agencies including those providing emergency support.

The solar-powered WIFI network allows crowd-sourced monitoring, which are also known casually as community eyeballs, as well as assisted analytics monitoring which is capable of triggering notifications.

By integrating all its systems, MOSTI could increase traceability. Raj used the durian fruit to illustrate the journey. Once the durian is harvested from the orchard, it will be suitably packed and barcoded. With the barcode, the fruit shipment could be traced using a barcode-tracking app while it is being shipped to customers.

Here is a more relevant example for healthcare: GEO Spatial Analytics can be used to enhance public safety. GEO Mapping is deployed to make a spatial record of incident, while biometric and MyKad (a kind of personal identification tool) can be integrated with the spatial data to support the police in their investigations and reporting.

With so much data collected, it is timely we get introduced to the Data Analytics Tools Suite which comprises:

- Data harvesting via robots
- Data cleansing via accelerated algorithms
- Natural language processing
- Harmonising for understanding
- Machine learning and analytics
- Video and sensor analytics

Such analytics tools will definitely boost healthcare IT capabilities.

The Sum of Sun and Sensors

While the sun powers up community sensors, data is collected, analysed and disseminated to appropriate agencies.
Panel Discussion 1: Journey Towards HIMSS EMRAM Stage 6 / Stage 7

Key Questions Posed to the Panel:
1) Why did you choose to try to achieve the advanced stages of EMR adoption model?
2) How did you get there?
3) What challenges did you have?
4) What lessons did you learn?

A Round of Congratulations:

John Daniels, Global Vice President of HIMSS Analytics, congratulated Dr. Hwang Hee while opening this panel discussion. Seoul National University Bundang Hospital was the first hospital in the world outside the US to achieve Stage 7 of the HIMSS EMR Adoption Model (EMRAM) and recently, it received its revalidation; hospitals have to get revalidated every three years.

Congratulations, too, went out to Dr. Manish Kohli of Cleveland Clinic Abu Dhabi and Dr. Chong Yoke Sin of Integrated Health Information Systems as their organizations are on their way to getting validated as Stage 7 hospitals.

Seoul National University Bundang Hospital (SNUBH)

Dr. Hwang Hee, CIO, SNUBH, said that SNUBH opened in 2003. Since then, they have been seeing a lot of requests from their staff to use data for their convenience. In 2008/2009, the hospital tried to work on a new information system. They searched the Internet and found out that the US had begun validating hospitals on their EMR adoptions. So, the hospital sought assistance from John Hoyt, Executive Vice President at HIMSS Analytics, to validate their hospital in South Korea.

The EMR adoption model guided them to choose the most suitable IT system (BESTCare).

After they achieved stage 7 in 2010, they started to realize a whole new version of information system for the hospital. Now they are extending their system to other countries in the region.

Integrated Health Information Systems (IHIS)

Dr. Chong Yoke Sin, CEO, IHIS, said that HIMSS could become a common standard or benchmarking model for healthcare IT experts. IHIS had compared the products and models available in the market, and found HIMSS to be the most independent. They noticed that the HIMSS model was built on a wealth of knowledge based on user studies. It offers healthcare providers a common lingo and framework which were easy to understand. This common roadmap could be communicated to all institutions.

IHIS put in focused effort on achieving Stage 6 the year after EMRAM adoption, though they had the “lowest score” when they first started. They filled the gaps identified during the validation process. One change involved embarking on a huge policy program to accelerate their progress.

Lessons learnt:
1) Very focused and systematic efforts are needed to arrive at where they are. It also helped that they have a common IT group – whatever was done in one institution could be replicated in another, which largely enabled their efforts to connect, compare, discover and track their outcomes better.

2) HIMSS’ staging and validation is very detailed, focused and exhaustive.

Beyond that, IHIS also came up with asset tracking, levels of ipass, in-patient occupation policy, as well as speed and productivity gains. They have developed a more refined set of maturity metrics called the Public Health Improvement Matrix (PHI) so that hospitals can be assured of having met certain standards before they open.

Cleveland Clinic Abu Dhabi

Dr. Manish Kohli, CMIO, Cleveland Clinic Abu Dhabi, shared that Cleveland Clinic Abu Dhabi was privileged to be able to start on a clean slate to build something on.

The central tenet of Cleveland Clinic Abu Dhabi is “Patient First”. The mandate is that the level of care a patient would get in Abu Dhabi is the same if the patient is to walk into Cleveland, Ohio. Hence, the driver is the need to ensure the quality of care, especially since the UAE government spends a lot of money spending its citizens abroad to get medical care.

In order to deliver the best quality care, they created a quality matrix which included the meaningful adoption of technology. HIMSS has a model, a blueprint, that makes technology adoption meaningful.

Dr. Kohli revealed that being able to say that the hospital is at Stage 6 meant attracting quality people to work for the hospital became easier.
Dr. Kohli said that if he was a patient, he would not want to be one of the 440,000 people (annual statistics) in America who die from (preventable) medical errors.

"As a physician, I know that I don’t know everything about everything in medicine."

Since Health IT has been known to reduce deaths from medical errors, a sophisticated system that tells us everything we need to know at the point of care is essential.

He said, “as we advance our knowledge clinically even as we build more sophisticated systems, I see the role of the doctor transforming to that of a coach. We can look at the analytics dashboard and based on the interventions recommended, we can advise the patient on what can be achieved. This is a different patient-centered experience.”

Cleveland Clinic Abu Dhabi is a sprawling new hospital with 364 beds. It would be a challenge getting 3000 staff to deliver the same quality care. The IT system is seen as one of the key components in quality care delivery.

Dr. Hwang shared that SNUBH’s medication errors reduction rate at two percent was very low when compared with other big hospitals in South Korea. This is one of the merits under the EMRAM in terms of patient safety.

After moving on to Stage 7 data analytics, SNUBH manages more than 460 hundred clinical indicators in the memory data warehouse.

After adopting the clinical indicators as part of the data analytics tool, unnecessary devices were reduced as well.

From the connected health perspective, EMRAM forms the backbone of mobile data access using smartphones and other smart devices.

Dr. Chong pointed out that a lot of minute work had to be done in order to progress to the next stage.

There are different systems to manage operating theatres, beds, prescriptions and schedules. Therefore, the architecture is very important. If IHIS has to choose one system or more silo systems, a single system is definitely preferred.

If they could have a clean slate to start with, they would choose an integrated system over the best (silo) system for each purpose.

Dr. Kohli believed that IT investment has to be guided by a philosophy. If the fundamental system is inefficient and one simply digitize it, it is not going to be beneficial.

Bringing a new system just to change things may not work well.

Also, training investment is very important. In mature hospitals, the processes need to be re-engineered and people need to change so as to be competitive and deliver quality care in fast-paced environments.

Panel moderator, John Daniels, noted that the same lessons were being learnt throughout the world. It is important to understand that it is not so much the technology but how you use it.

Expressing appreciation to the panellists, the moderator said “you help to drive home the point that there are going to be “some bugs along the way but these are going to help you improve”.

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Panel Discussion 2: Healthcare of Tomorrow

Focus Topics:
- SMART hospitals, Patient Engagement, Data Analytics and Care models
- How will these 4 key areas continue to evolve, and improve patient safety and quality care?

**Bumrungrad International**

Dr. James Miser, Chief Medical Information Officer of Thailand’s famous Bumrungrad International, said that they are looking at making available correct data that’s needed for the correct decisions at the point of care.

Turning critical decision-making into a data-driven process requires availing data immediately to the physician and other levels beyond that. An example is data for prescribing medicine.

However, most systems are hospital-centered or department-centre, not patient-centered. Therefore, the challenge for healthcare IT is to become patient-centered.

“Patient-centered” means different things to different departments. For example, in the area of cancer treatment, IBM Watson is developing a system to customize individual treatment. But this requires gathering and putting all the world’s literature and data into the healthcare IT system to construct a clear pathway using the most recent data to support patient-physician consultations.

The goal is to create an opportunity for the patient to see their images, relevant data and talk with the doctor about the pros and cons of a particular recommendation. Patients can receive individualized treatment options based on global data, and not just the hospital’s data.

**Ramathibodi Hospital, Mahidol University**

Dr. Nawanan Theera-Ampornpunt, Faculty of Medicine of Ramathibodi Hospital, Mahidol University, struck a chord with Siriraj as they are also a medical school.

An issue Ramathibodi Hospital faced is how to update IT infrastructure and use that to transform healthcare. In the past, they had focused on administrative and operational issues. Now, they focus more on capturing claims and reimbursement data so that doctors can concentrate on taking care of patients. But going into the future, they need to focus more on quality and clinical areas such as patient support implementation systems.

Mahidol University is setting up a new hospital on campus and a new issues have cropped up. For example:
- Should they use the same technology as the current hospital or use a new HIS?
- If so, which one?
- How to integrate data with the old system?

Transforming healthcare using ICT in a large hospital school culture is a challenge but they accomplished specific targets. Last year, they launched a mobile app to allow patients to access their own appointment data. This may already exist for private hospitals. But for a teaching hospital, this is more complicated and could represent a significant improvement.

In the future, the hospital may enter more clinical areas. An ageing Thailand will create a greater demand for population and community care. The medical school believes that they have a duty to think of innovative ways to transit from acute care to chronic disease continuity care across a continuum.

**Siriraj Hospital**

Dr. Visit Vamvanij, Hospital Director of the Faculty of Medicine, Siriraj Hospital, shared that they aimed to increase quality of care and treatment. However, they have a social responsibility to lower the costs to patients and their families as well.

The use of IT is to lower costs. As a medical school, they could add value to society by capturing and connecting all the information available, and then share or use it to train people.

The challenge is interfacing with patients and staff, as well as ensuring that the data is accurate and fast so that decision-making can be quick. To do so, images and data can be transmitted over the Internet before sending the patient for treatment or having someone come in.

It is also important to standardize processes and measure everything.

**Bangkok Dusit Medical Services (BDMS)**

Dr. Mike McCoy, Chief Medical Information Officer of BDMS, picked up on what Dr. Nawanan said about continuity of care.

He raised the question: what is the future/possibility of hospitals sharing data in Thailand to provide that continuity of care?

In response, Dr. Miser gave an example of a cancer patient who gets sick after chemotherapy at home, not necessarily at the hospital. Patient data can be obtained from the patient’s home and a patient communication process can be created so that the patient can communicate on a handheld device. The information will then go through a cloud, through institutions and into the patient’s record. Ultimately, data should go back to the patient too. Hospitals can work together along this line.

**Conclusion:**

The panellists have demonstrated that change is a continuous process. The quest, however, yields big returns in quality care.