



INNOVATION STORIES



A CASE OF THE TORTOISE & THE HARE



As we welcome the Year of the Rabbit, some of us were reminded of the story about the Tortoise and the Hare, where the slow and steady tortoise wins the race, while the hare, though quick on his feet, was overconfident of his abilities and eventually left behind. The relationship between the two have always been one of rivalry and competition to the finish line in all narrations across cultures.

This Lunar New Year, we hope to take this story beyond that finish line, where their collaborative qualities of being quick and confident, as well as slow and steady, will propel the healthcare innovation race ahead!

Quick as a Hare Innovations

During the recent pandemic, while it felt like the rest of the world had come to a standstill, healthcare innovations were being developed at speed and scale, driven by an urgent need to contain the spread of the virus. Perhaps it would be appropriate to say innovators were breeding solutions like rabbits.

From the development of the protective gear (Faceshield and Winmask), to the shift towards digitalisation (microlearning, telemedicine and remote care management), and the various solutions to detect and sanitise facilities, the acceleration of implementation on these innovations have impacted healthcare

positively. The adoption of these innovations have also contributed to paving the way for care beyond the walls of a healthcare facility. [Read more about some of these innovations here.](#)

Crisis or not, when innovating, the greatest value comes from transformational innovation, where 80 percent of innovations will fail. Speed is of the essence as Maaïke Doyer urges innovators to adopt the **“Fail Early, Fast, and Often”** approach in developing solutions effectively. To secure market share, launch the prototype early, and then continuously improve on the solution with customer feedback. [Read more here.](#)

Steady as the Tortoise

Just like all aspiring innovators, the tortoise in the fabled story is one to dream big, and to keep going until it has achieved its goal.

With the hare’s speed in innovation, the tortoise’s steady and resilient steps forward takes innovation beyond its initial success and at a much greater scale as solutions continue to be improved and adapted to deliver more utility and value, and when working to effect systems-level change.

In addition to speed, for a robust system to be implemented, it takes a deep understanding of the requirements from users, processes and structures, as well as partnerships with collaborators to design and build impactful systems, such as the NGEMR, the Command Control and Communications (C3) System and the CHI Learning & Development system, and more recently, TTSH’s award winning “Hospital without Walls” strategy.

Together Forever

As we step into the Lunar New Year, let us visualise the story of the Tortoise and the Hare with a different ending – as innovators collaborating to take healthcare into another transformative era!

Wishing you and your family good health and prosperity as we leap into the new year!

INNOVATION STORIES



6S IN ACTION: A VR EXPERIENCE



CHI's Kaizen team has taken experiential learning to the next level with the recent launch of their virtual reality (VR) training for 6S. With the first series of training sessions taking place in early January 2023, the immersive learning experience will augment Tan Tock Seng Hospital (TTSH)'s signature 6S training programme, by enabling staff to practice a mix of clinical and non-clinical scenarios to illustrate 6S application across the hospital.

The first scenario to start off the training series was on SOC blood-taking (Phlebotomy), where staff would have the VR experience on optimizing the blood-taking process, and reduce the time taken to do this with patients. Going forward, the team has plans to launch scenario focused on pharmacy medication packing in the next release.

Find out what drove the team to explore training beyond the traditional classroom walls, and the expected impact of the learning experience in VR.

The Backstory

The signature 6S training programme has been implemented successfully at Tan Tock Seng Hospital since 2008, equipping the workforce with basic lean knowledge to increase the efficiency of their work processes and environment.

Traditionally taught in a classroom setting, the programme was redesigned into microlearning modules via National Healthcare Group eLearn in 2020, enabling staff to continue their training during the pandemic by accessing these modules on their mobile devices.

However, microlearning alone is insufficient to achieve the learning outcomes that experiential classroom based training offered. As such, the Kaizen team explored ways to take the training of 6S to another level that would enable more effective learning through virtual reality (VR).

Existing Challenges

To enable staff to practice 6S in their training more effectively, CHI's Kaizen team proposed to augment microlearning with Virtual Reality (VR) experiential training.

The VR component will fulfil two categories of needs:

• **Learning Experience and Outcomes**

According to research studies, online learning would only be effective when there was effective integration of pedagogy, technology and content. While a lot of thought has been put into the pedagogy and content design in the development for the 6S microlearning modules, there was still a missing component of experiential learning and application. Consequently, the online learning for 6S had not achieved the desired learning outcomes as learners lack the chance to apply the knowledge, and subsequently, the confidence to apply 6S in their work.

VR will complement the microlearning module by providing learners the opportunity to practice 6S and have the confidence to apply the knowledge in their work.

• **Operational Constraints**

One of the challenges faced by the team was the administrative load of identifying and booking relevant venues to carry out the "Waste Walk", a walk-through of existing processes to see which areas can be eliminated or made more efficient with 6S. While staff members had the opportunity to propose changes using 6S principles after the Waste Walk, they did not have the autonomy to execute the improvements.

By implementing a VR environment, staff can apply and practise the 6S principles to augment the microlearning programme to further enhance learning effectiveness.

The Solution

The proposed VR component of the 6S programme would provide staff with an opportunity to apply 6S (knowledge that they acquired through the microlearning module) in a safe virtual environment. The VR component would provide staff with an opportunity to practice and apply the basic Lean concepts leading to a deeper knowledge transfer.

This would ultimately enable staff to be more confident and adept at identifying and removing waste so as to facilitate care / process redesign in their work environment.

Going Forward

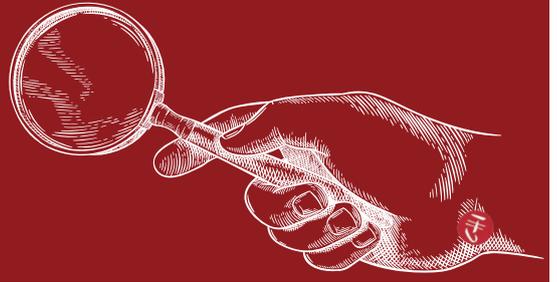
"With the VR headset and this training, it helps me to understand 6S better. As a nurse in the ward, the scenario feels very relatable, and I am able to apply 6S in safe environment," shared Joshua Lim, a staff nurse of TTSH who did a session on Phlebotomy.

The 6S microlearning module has already been offered beyond TTSH, through the Agency for Integrated Care Learning Institute LMS (AIC LI). While the current VR training sessions were offered to TTSH staff, moving forward, the team plans to extend this to learners within the community and to scale it beyond operations in TTSH.

[Click here to read the full story.](#)

The sessions on Phlebotomy are currently open for TTSH staff. For more information, please visit <http://for.sg/vr6s>.

HIGHLIGHTS @CHI



CHI INTERNATIONAL FELLOWSHIP IN INNOVATION AND LEADERSHIP:

12 - 16 DEC 2022

Participants of the CHI International Fellowship in Innovation and Leadership set off to Bangkok, Thailand in Dec, on an exchange as part of the 16-week Fellowship programme! While there, the participants experienced for themselves and co-learned healthcare practices at Siriraj Hospital, Bangkok Hospital, and Bumrungrad International Hospital.

Designed around the three stages of the CHI Innovation Cycle, the programme is practice-based and anchored on the participant's project, while combining professional development, coaching and mentoring, peer and experiential learning, fostering international and local network, innovation projects and immersions into other innovation healthcare systems in Singapore and beyond.

The group was warmly welcomed to Siriraj Hospital on the first day for an insightful line-up that featured Siriraj's 5G Smart Hospital Project, the Diabetes Centre of Excellence, the Robotic Pharmacy and the Mobile Stroke Unit. Prof.Dr.Apichat Asavamongkolkul, Dean of the Faculty of Medicine Siriraj Hospital, and his team's insights gave the participants a glimpse into the innovative culture at the hospital.

Day Two of the exchange portion has the participants geared up for even more co-learning and immersion with visits to Bangkok Hospital and Bumrungrad International Hospital!

Healthcare Intelligence and the Smart Hospital concept took centrestage for participants as Khun Ratapong Ambharwong, Bangkok International Hospital Director, and his team put together a rigorous programme, sharing more about the hospital's Smart Hospital Project, the "My B+ Application", an innovative medical treatment "Total Hip Replacement with Direct Anterior Approach", and the Smart Emergency Services Network. The participants also had the opportunity to tour the hospital.

Continuing on to Bumrungrad International Hospital later in the afternoon, the participants were engaged in learning more about the hospital's digital platform that was set up using a patient centred design, the Heart Institute, and the future of medicine with Bumrungrad Genetics, from Artirat Charukitpipat, CEO of Bumrungrad International Hospital and her team.

Rounding off the week, participants of the CHI International Fellowship in Innovation and Leadership programme explored innovative work sites in action with a visit to Huawei Technologies (Thailand) Co., Ltd.

Truly, an enriching experience for the participants!



Tuning in attentively to the insights shared at Siriraj Hospital.



Hospital tour at Bangkok Hospital.

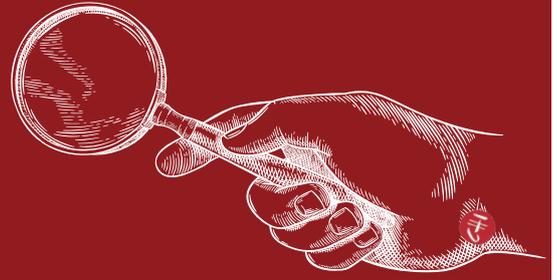


Learning more about Genomics at Bumrungrad International Hospital.



Exploring 5G technology at Huawei Technologies.

HIGHLIGHTS @CHI



SCALING IMPACT: WHY DO MOST INNOVATIONS FAIL TO SPREAD? WHEN DO THEY SUCCEED?

4 NOV 2022

CHI INNOVATE 2022 concluded a year-long series of events with its Flagship Day on 4 November, featuring 3 Centrestage and panel sessions, each focused on their respective areas of discussion: Scaling Impact, Redefining Impact, and Mobilising for Impact. In this issue, we share the learnings from the first of three sessions.

Leading the session for Scaling Impact is Centrestage Speaker, Maaïke Doyer, Founder, Epic Angels. The Centrestage session is followed by a panel discussion, moderated by A/Prof Tan Cher Heng, Executive Director, Centre for Healthcare Innovation.

Joining Ms Doyer and A/Prof Tan are panellists:

- Dr Sue Anne Toh, CEO, Co-Founder & Medical, NOVI Health
- Dr Bryan Tan, Chief Health Officer, Salesforce APAC
- Julian Koo, CEO & Co-Founder, Jaga-Me

In this session, innovators from Singapore, US and Asia Pacific share their journey, highlighting the barriers and enablers to innovation. With insights into corporate organisations and start-ups, how can public healthcare institutions leverage on the agility of a start-up?

Customer-Centric Innovation

Core to scaling impact for innovation is to have the customer's needs at the heart of the development. To do this, be pro-active in communicating with customers and clients early on in the innovation journey. By shifting the mindset to focus on the problem rather than the solution, innovators will be able to conceptualise a variety of solutions, and the number of ideas will continue to grow. If the problem is significant and affects many, the impact of the solution(s) will be scale up.

Innovation DNA & Eco-system

View innovation as a culture that is embedded in the organisation's muscle memory. It is important to nurture the innovation eco-system within the organisation, and this would require the involvement of every person within the set-up to ensure a holistic approach. While innovating, start small but be ambitious and think big! Adopt the "Fail Early, Fast, and Often" approach in developing the solutions in order to be effective.

Successful Innovation Within the System

In the meantime, when innovating within the traditional system and seeking support from upper management, de-risk by setting clear development stages/phases, budget goals and back-up plans. Build a startup culture that focuses on transformational innovation, and think about securing support and resources within the system where an investment of 10 cents would look like \$500 outside the system. It is important to build trust and strengthen relationships in an innovation journey, and work with the components in the system (team/services), as well as facilitate change management to enable the scaling of a solution.



Maaïke Doyer, urging participants to change the way they innovate and do business.



A/Prof Tan fielding questions from participants to Ms Doyer.



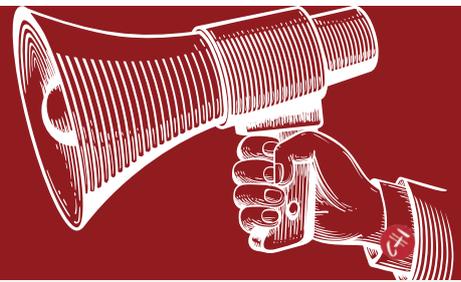
From left to right: Dr Sue Anne Toh, Dr Bryan Tan, and Mr Julian Koo as panellists.

[Click here for the full article.](#)

[Catch the Highlights of the Flagship Event here.](#)

[For the full programme, relive the experience here.](#)

UPCOMING EVENTS



CHI 14th MASTERCLASS WITH DR JONTY HEAVERSEGE



17 FEB 2023

Register now to secure your spot at the upcoming 14th CHI Masterclass with Dr Jonty Heaversedge, Joint Medical Director, Integrated Care Board, SE London Integrated Care System and Clinical Chair, NHS South East London Clinical Commissioning Group (CCG)!

In this Masterclass, Jonty will be sharing NHS's journey in developing the Integrated Care System (ICS), focusing on the "how"; challenges, lessons and insights gleaned with the reimagining of care and bringing about changes in a complex system.

Date: 17 February 2023 (Friday)

Time: 12.00pm - 1.30pm

Venue: Centre for Healthcare Innovation
18 Jalan Tan Tock Seng S(308443)



Scan to register
or click here

MyCARE VR EXPERIENCE



Ongoing 2023

The 6S E-learning programme has now evolved with the use of Virtual Reality (VR)!

If you want to be among the first to experience this new reality, complete your 6S course on eLearn to sign up for the MyCare VR experience in January 2023. For more information, contact the team at ttsh_kaizen@ttsh.com.sg. **Click here to register.**

Currently available only for TTSH staff.

CHI INNOVATE 2023: MARK YOUR CALENDARS



28 JUL 2023

Healthcare is expanding our focus: from healthcare to health; from patients to people; from clinical facilities to communities of care.

CHI INNOVATE 2023, themed "Building Bridges: Health & Social Care", will galvanise us to breach traditional boundaries and work with community partners to catalyse health and social changes, ultimately creating more sustainable healthcare and healthy communities.

Mark your calendars and follow us on social media for the latest updates! **Click here to register your interest!**

For more information, contact the team at chi@ttsh.com.sg.

NEWS FROM OUR PARTNERS



ORGANISATIONS MUST INVEST IN EMPLOYEE DEVELOPMENT AND DIGITAL TRANSFORMATION

4 NOV 2022

The significance of learning - and more specifically, the value of continuous learning - becomes more crucial than ever before as the future of work continues to shift and technology continues to accelerate. It is time for businesses to keep pace with industry trends and gain insight into the current level of competencies among employees.

So how do leaders not only encourage learning across their teams but instil a culture of learning that serves as the foundation of the entire organisation?

In this exclusive interview with ETHRWorld International, Sean Lim, NTUC LearningHub talks about some of the immediate priorities for leaders, the most important learnings from the year 2022, how leaders can develop an effective learning strategy, and more. Some of the questions in the interview are:

When building a learning strategy, an organisation should focus on its unique, competitive advantage and realistic, measurable goals. In your opinion, how can leaders develop an effective learning strategy? What are the most prominent challenges that learning leaders are facing currently? In your experience, what could be some of the immediate priorities for L&D leaders today? What have been the most important learnings from the year 2022? Which HR strategies can we take forward and what, in your opinion, needs to be left behind? What according to you would be the new rules of HR & work, especially in Southeast Asia to thrive in the new world of work?

As we set the tone for a new year - how is 2023 going to be different from the last two years in the context of people, and work? How will the role of HR be enhanced further?

Read the exclusive interview here.

[Click here for more.](#)



Sean Lim, Chief Human Resource Officer, NTUC LearningHub

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