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Singapore embraces co-creation and co-learning to strengthen healthcare outcomes

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Deputy Prime Minister and Coordinating Minister for Economic Policies, Mr Heng Swee Keat addressed CHI INNOVATE forum, emphasizing 3 crucial pathways; 'innovation at the systems level', 'innovation in the use of technology' and by 'fostering an innovative workplace culture'



Singapore's Center for Healthcare Innovation (CHI) located at the prestigious Tan Tock Seng Hospital (TTSH) unravelled "CHI INNOVATE 2022" conference, an annual thought leadership forum to engage local and international healthcare leaders together to shape the future of healthcare.

The conference, themed "The Road from Innovation to Impact", held on November 3-4, explored how healthcare innovations can be scaled up, re-focused and better adapted, to enhance patient care values.

TTSH envisions establishing a “Hospital without Walls”, in partnership with CHI. By 2023, "Telepods" will be introduced to the hospital, providing clinicians with a conducive environment for teleconsultations.

Deputy Prime Minister and Coordinating Minister for Economic Policies, Mr Heng Swee Keat addressed more than 500 healthcare participants at CHI INNOVATE forum, emphasizing Singapore's potential for greater impact in healthcare innovation via 3 crucial pathways like, 'innovation at the systems level', 'innovation in the use of technology' and by 'fostering an innovative workplace culture'.

DMP urged healthcare institutions to embrace innovation at a collaborative level to tackle the challenges posed by the "Iron Triangle" of cost, accessibility, and quality.

Further, DPM announced the launch of the Virtual CHI Living Lab in early 2023, a collaborative effort between CHI, SingHealth, NHG, NTU Lee Kong Chian School of Medicine and Duke-NUS. The new lab will enable innovation, validation, implementation of VR/AR applications in healthcare education.

National Healthcare Innovation and Productivity (HIP)

For the year 2022, CHI has received nearly 100 submissions for the National Healthcare Innovation and Productivity (HIP) Medals, an award sponsored by the Ng Teng Fong Healthcare Innovation Programme and supported by the Ministry of Health (MOH). A total of eight projects have been recognized for excellence in the areas of Care Redesign, Automation, IT, and Robotics Innovation, Workforce Transformation, and Adoption.

The 2022 National HIP Excellence Champion Medal is awarded to Ren Ci Hospital for its smart geo-fencing system. This innovative system alerts staff if residents with dementia wander outside zoned areas of the nursing home. The novel system can allow residents to move about independently and safely wth minimal supervision.

Accelerating Innovation at CHISEL

In November 2020, CHI launched the CHI Start-up Enterprise Link (CHISEL), a platform to strengthen healthcare transformation. CHISEL, a sandbox and marketplace supported by Temasek Foundation and MOH, aims to accelerate the adoption of healthcare innovations jointly developed with start-ups and small and medium-sized enterprises.

In this public-private partnership, CHI and Temasek Foundation have organised the Healthcare InnoMatch, an open innovation challenge. Six companies have been awarded with the grants for their innovations, in areas such as AI, predictive analytics, and others.

The winner's innovations will be tested in actual healthcare settings by three public healthcare clusters to develop the technology in depth.

Among the successful proposals are:

H-Man, Singapore's first-of-its-kind portable medical artificial intelligence robot to help patients undergo upper limb rehabilitation therapy at home. Co-developed by TTSH, Nanyang Technological University and ArtiCares Pte Ltd, H-Man makes home rehabilitation more engaging and convenient. Patients' performance and feedback can also be transmitted wirelessly to therapists. With a pilot study underway, H-Man is being enhanced into a potential tele-rehabilitation service for stroke patients.

PreSAGE is an artificial intelligence (AI) powered bed-fall surveillance and prevention prediction system co-developed by TTSH and CoNEX Healthcare Pte Ltd. It uses thermal sensing to provide round-the-clock automated surveillance, allowing timely interventions by healthcare staff for safer patient care. Piloted in TTSH wards, the project is soon to be tested in community care settings.

Reimagining Healthcare - CHIRP:

CHI Reimagination Plaza (CHIRP) is a shared space for novel sustainable models of care by implementing digital technologies. Some of the ideas discussed are:

CHI Evaluation Framework (CHIEF), a metric framework developed by CHI in consultation with public healthcare clusters. By having a common framework, innovations can be smoothly transferred and adopted throughout a variety of care settings. Under CHISEL, nine innovative solutions were assessed by start-ups and small and medium-sized enterprises using CHIEF.

Healthcare 5G, a concerted exploration of 5G applications in healthcare by CHI and Infocomm Media Development Authority (IMDA), starting with a 5G Use Case Workshop with TTSH to understand healthcare needs and how 5G will benefit the sector. TTSH is currently studying an existing pill delivery robot, the Pillbot. A 5G Network could enable the robot to host multichannel conferencing capabilities scaled up for bedside care in the wards and augment security and portering operations.

In order to create an immersive physical-virtual hybrid concept, CHIRP will leverage virtual reality technologies to transform its existing co-creating space. Future care environments will provide an immersive learning experience for collaborators.

A Joint Venture into Medical 3D Printing

In addition, CHI launched the Medical 3D Printing Center, which houses seven machines for healthcare applications. Over 200 3D models have been printed at the center for clinical, educational, and research purposes. As part of its partnership with Eye-2-Eye Communications Pte Ltd, Medairum Pte Ltd, and NHG's Center for Medical Technologies & Innovations (CMTi), the center intends to expand its capabilities into other clinical specialties and research.

Towards CHI INNOVATE 2023

Further, the annual flagship event CHI INNOVATE 2023, is set to happen on 28 July 2023 with the theme "Health and Social Change for Sustainability".

Coverage By Hithaishi C Bhaskar