

Strengthening service integration of non-locally trained healthcare professionals through crew resource management: longitudinal measures and beyond

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To the Editor—The Hospital Authority launched the Greater Bay Area (GBA) Healthcare Talents Exchange Programmes in September 2022 for capacity enhancement.¹ Following the Sharing Activity for Non-Locally Trained Healthcare Professionals, also known as 深化醫療團隊協作計劃 (Phase I),¹ this project (Phase II) included brief open-ended questions to elicit qualitative responses on common themes of healthcare acculturation barriers, and distributed a questionnaire to quantify preferences for crew resource management (CRM) elements,² experiences with integrating innovative approaches to healthcare education, and perceived levels of knowledge acquisition at three time points.^{3,4}

Our multidisciplinary team comprised medical and surgical consultants, a nurse, administrators, and a research psychologist. All non-locally trained doctors and nurses who had completed Phase I (for introduction and interactive CRM sharing purposes) were invited to participate in Phase II (for innovative education and research exposure purposes) 3 months later (acceptance rate=91%) [Fig].³ The study was approved by the Hospital Authority Research Ethics Committee, Kowloon Central/Kowloon East (IRB Ref No.: KC/KE-23-0174/FR-3). Written informed consent was obtained from all participants included in the study.

After a full review, the research team identified common themes related to CRM, service gaps in innovative medical education, and barriers to the healthcare acculturation process. Matched scale data from Phase I were retrieved, and the same items on contextual knowledge acquisition (covering overall service and CRM elements) were re-evaluated using a 5-point Likert scale (1=strongly disagree; 5=strongly agree) to assess the learning effect across three time points.^{1,4}

Participants (n=31) considered healthcare simulation training effective in enhancing the quality and safety of healthcare services (mean score=9.71/10, ± 0.63). Despite the perceived enhancement of training quality by innovative technologies (mean score=9.34/10, ± 1.00), almost all participants had prior experience with traditional training modalities (standardised patient, 97%; part-task trainer, 94%) but limited exposure to advanced technology counterparts (virtual/augmented reality, 26%; three-dimensional printed

simulators, 29%).

Major challenges encountered in the acculturation process by participants were themed around communication barriers (45%) and service culture (35%).^{1,5} With a significant main effect of time ($F(2,60)=35.82$, $P<0.001$), post-hoc tests using Bonferroni correction revealed that contextual knowledge in service overview and CRM elements increased by 1.07 unit scores after Phase I ($P<0.001$), then dropped by 0.36 unit scores after a 3-month washout period ($P<0.05$).

The findings confirmed high acceptance of, and a perceived need for, innovative simulation training modalities among non-locally trained professionals to enhance the quality and safety of healthcare services. The observed learning retention curve (peaking at the completion of Phase I but declining by over 30% in 3 months) reminded simulation educators of the importance of memory consolidation with post-learning materials and scenario-based practice in CRM elements. Further studies should explore specific patterns of cross-cultural behaviour,^{2,4} themes of communication barriers in clinical handover, and coping strategies in the acculturation process.^{3,5}

Author contributions

All authors contributed to the concept or design of the letter, acquisition of data, and analysis or interpretation of data. EHK So and VKL Cheung drafted the letter. All authors critically revised the letter for important intellectual content. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

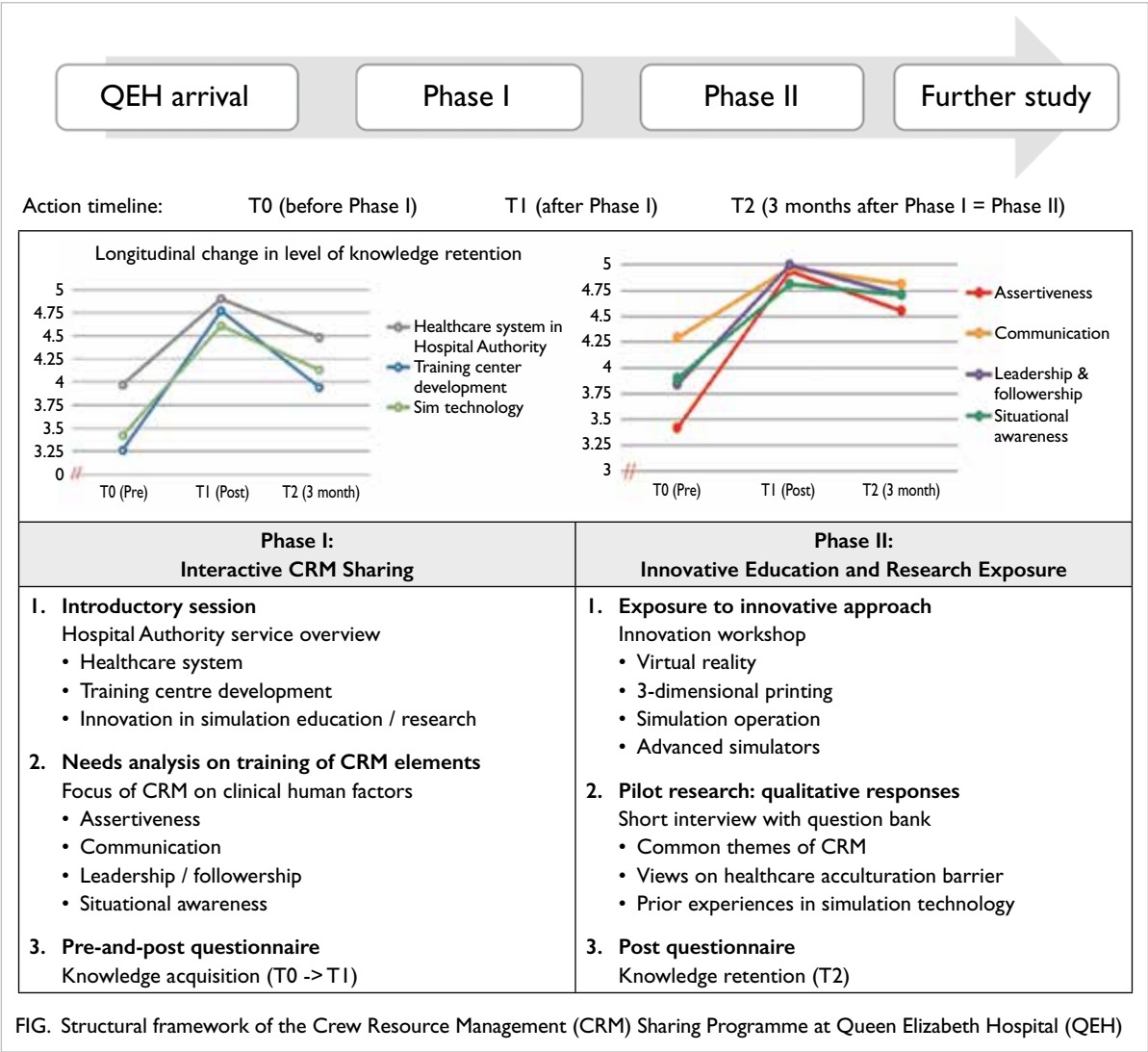
All authors have disclosed no conflicts of interest.

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References

1. So EH, Cheung VK, Leung AS, et al. Specialised crew

resource management programme for non-locally trained healthcare professionals: expediting healthcare cultural adaptation. Hong Kong Med J 2024;30:80-1.
2. Chan CK, So EH, Ng GW, Ma TW, Chan KK, Ho LY. Participant evaluation of simulation training using crew resource management in a hospital setting in Hong Kong. Hong Kong Med J 2016;22:131-7.
3. Cheung V, So EH, Nestel D, et al. Technology-enhanced training for central venous catheter insertion training: a reflective essay. Int J Healthc Simul 2024 Apr 19. Epub ahead of print.
4. So EH, Cheung VK, Ng CW, et al. Maintaining facilitative conflict management style and self-efficacy through O&G specific CRM Classroom Training in Queen Elizabeth Hospital. Proceedings of the KCC Convention; 2024 October 25; Hong Kong SAR, China.
5. Ng GW, Cheung VK, So SS, et al. Practice of medical interns on clinical handover with artificial intelligence [abstract]. Simul Healthc 2024;19:e10.