

數位時代的醫學院課程： 臨床教育者與 教師的觀點*

Medical School Curriculum in the Digital Age:
Perspectives of Clinical Educators and Teachers

Humairah Zainal, Xiaohui Xin, Julian Thumboo &
Kok Yong Fong 著、黃滄暉 I-Wei Huang 編譯



摘要

一、背景：鑑於醫療數位化程度日益增加，有必要重新檢視新加坡醫學院的課程內容。儘管新加坡在數位競爭力方面表現卓越，然而，在培養醫學生適應數位時代的準備工作上，仍存在明顯落差。此外，針對亞洲醫學院應在何種程度上教授數位科技技能，以協助醫學生為未來臨床實務做好準備，目前的研究仍相當有限。本研究以新加坡為案例，探討部分當地臨床教育者和教師對於向醫學生傳授數位科技技能的必要性之觀點。同時，本研究也提出建議，試圖在臨床醫師

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關鍵詞：科技 (technology)、新加坡 (Singapore)、課程 (curriculum)、臨床能力 (clinical competence)、醫學教育 (medical education)

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對數位科技的疑慮與臨床實務所需的數位能力之間，取得平衡。

二、方法：本研究的資料來自對新加坡公私立醫療部門中33位臨床教育者和教師的個別訪談。受訪者透過有目的抽樣法招募，並使用質性主題分析法進行資料詮釋。

三、結果：受訪者包括來自新加坡三所本地醫學院的教務副院長，以及來自多個學科的資深顧問醫師。整體而言，受訪者認為培養醫學生具備數位科技技能有兩大優勢，包括：促進創新文化和提升工作效率。然而，他們也指出傳授這些技能的四大主要顧慮：（一）基本臨床技能的流失；（二）忽略以全人觀點進行醫療的通才取向，包括整體性病人管理、跨專業協作，以及在各專科中維持廣泛實務的承諾；（三）科技進展過於迅速；（四）四、科技導致醫療的人性化降低。

四、結論：本研究結果顯示，對新加坡的醫學生而言，課程設計應將數位科技的應用與核心臨床技能並重，才能使其獲益。

Background: There is a need to reexamine Singapore's medical school curricula in light of the increasing digitalization of healthcare. Notwithstanding Singapore's digital competitiveness, there is a perceived gap in preparing its medical students for the digital age. Furthermore, limited research has evaluated the extent to which skills in using digital technologies should be taught to medical students in Asian medical schools to prepare them for future clinical practice- a gap that is filled by this study. Using Singapore as a case study, it explores the views of some local clinical educators and teachers towards the need to impart skills in digital technologies to medical students. It also offers recommendations on ways

to balance the clinicians' concerns about these technologies with the digital competencies needed for clinical practice.

Methods: Findings were drawn from individual interviews with 33 clinical educators and teachers from Singapore's public and private healthcare sectors. They were recruited using purposive sampling. Data were interpreted using qualitative thematic analysis.

Results: Participants included vice deans of education from all three local medical schools and senior consultants from a wide variety of disciplines. Overall, they acknowledged two benefits of equipping students with skills in digital technologies including promoting the culture of innovation and improving work efficiency. However, they also highlighted four main concerns of imparting these skills: (i) erosion of basic clinical skills, (ii) neglect of a generalist approach to healthcare characterized by holistic management of patients, inter-professional collaboration, and commitment to breadth of practice within each specialty, (iii) rapid pace of technological advances, and (iv) de-personalisation by technology.

Conclusions: The findings show that medical students in Singapore would benefit from a curriculum that teaches them to use digital technologies alongside core clinical skills.

壹、背景

新加坡在數位轉型方面處於領先地位。「2020年全球連結性指數」(Global Connectivity Index, GCI)將新加坡排名第二，僅次於美國，主要體現在提升使用者體驗及優先投資於5G、大數據、人工智慧(Artificial Intelligence, AI)和物聯網(Internet of Things, IoT)方面¹。在醫療體系中，COVID-19疫情與日益增長的高齡化人口加速了AI、機器人技術和遠距醫療等數位科技於新加坡醫療系統中的採用²。儘管取得了這些進展，但在醫學院所教授的數位技能與醫學生及初階醫師認為對臨床照護有用的技能之間³，仍存在明顯落差。這種落差並非新加坡獨有，其他已開發國家如美國及歐洲的研究也報導了醫學教育在數位科技方面存在相似趨勢⁴。這些科技包括遠距

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