



Virtual Care in CanMEDS 2025
Soins virtuels dans CanMEDS 2025

Rebecca G Stovel, Daniel Dubois, Teresa M Chan, Brent Thoma et Kendall Ho

Volume 14, numéro 1, 2023

CanMEDS 2025 Special Issue
Numéro spécial CanMEDS 2025

URI : <https://id.erudit.org/iderudit/1099037ar>

DOI : <https://doi.org/10.36834/cmej.75439>

[Aller au sommaire du numéro](#)

Éditeur(s)

Canadian Medical Education Journal

ISSN

1923-1202 (numérique)

[Découvrir la revue](#)

Citer ce document

Stovel, R., Dubois, D., Chan, T., Thoma, B. & Ho, K. (2023). Virtual Care in CanMEDS 2025. *Canadian Medical Education Journal / Revue canadienne de l'éducation médicale*, 14(1), 22–26. <https://doi.org/10.36834/cmej.75439>

© Rebecca G Stovel, Daniel Dubois, Teresa M Chan, Brent Thoma, Kendall Ho, 2023



Ce document est protégé par la loi sur le droit d'auteur. L'utilisation des services d'Érudit (y compris la reproduction) est assujettie à sa politique d'utilisation que vous pouvez consulter en ligne.

<https://apropos.erudit.org/fr/usagers/politique-dutilisation/>

Virtual Care in CanMEDS 2025

Soins virtuels dans CanMEDS 2025

Rebecca G Stovel,¹ Daniel Dubois,² Teresa M Chan,³ Brent Thoma,⁴ Kendall Ho⁵

¹Department of Medicine, University of Toronto, Ontario, Canada; ²Department of Anesthesiology and Pain Medicine, University of Ottawa, Ontario, Canada; ³Office of Continuing Professional Development, Faculty of Health Sciences, McMaster University, Ontario, Canada; ⁴University of Saskatchewan, Saskatchewan, Canada; ⁵Department of Emergency Medicine, UBC Faculty of Medicine, British Columbia, Canada

Correspondence to: Rebecca G. Stovel, Sunnybrook Health Sciences Centre 2075 Bayview Ave, Toronto, ON, M4N 3M5;

email: rebecca.stovel@mail.utoronto.ca; Twitter: @beccastovel

Published ahead of issue: Sept 26, 2022; published: Mar 21, 2023. CMEJ 2023, 14(1) Available at <https://doi.org/10.36834/cmej.75439>

© 2023 Stovel, Dubois, Chan, Thoma, Ho; licensee Synergies Partners. This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License. (<https://creativecommons.org/licenses/by-nc-nd/4.0>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is cited.

Introduction

Virtual care (VC) is effective and safe in the hands of well-trained physicians.¹ However, competency in in-person care does not necessarily equate to competency in VC.² Despite multiple calls for specific VC training,³⁻⁶ these concepts were identified as being underrepresented in the 2015 CanMEDS physician competency framework⁷ by a recent literature review.⁸ CanMEDS 2025 must be updated to reflect these novel competencies, ensuring that today's physicians are able to meet their patients' and societies' evolving needs. For this primer, we propose changes to the CanMEDS competencies that focus on the skills necessary to connect virtually with patients and peers to deliver effective remote consultation and patient care.

What is VC and why is it important to physician competency?

Technological advances are changing how people relate, communicate, and live. In healthcare, they are altering the landscape of research and practice. There are many, sometimes overlapping, terms in this field (see definitions in Table 1). This paper utilizes the term *Virtual Care* to focus on the provision of individual patient care using technology. Concepts such as health informatics and data analytics are out of the scope of this paper but are indeed important and are addressed elsewhere.⁹

VC offers the opportunity to provide access to high-quality care and enhance the reach, equity, efficiency, and potentially cost-effectiveness of medical services.^{1,3} Up to 85% of patients are interested in receiving VC¹⁶ and

multiple areas of medicine have demonstrated its effectiveness.¹ Despite its apparent desirability, VC requires specific training because in-person medical competencies do not automatically translate to the virtual sphere² and there are technological and sociocultural (eg: policy and equity) limitations to VC that need to be appreciated before a physician can practice competently in the field.¹⁷ Indeed, the Canadian Medical Association, College of Family Physicians of Canada, and The Royal College of Physicians and Surgeons of Canada have recommended that “[VC] training must be integrated into health service education so that providers and administrators are wholly prepared to function in a mature [VC] ecosystem.”¹⁷

How is VC represented in the 2015 CanMEDS competency framework?

There have been long standing calls for increased training in VC at the residency³ and medical student level.⁴ To address these needs a CanMEDS 2015 expert working group on eHealth made recommendations on specific competencies for navigating eHealth and virtual health care adoption,¹⁸ though most of these were not reflected in the final competency framework. Notably, while “technology-enabled communication” can be found within one of the 2015 CanMEDS enabling competencies (see Table 2), digital health, VC, eHealth and other related terms are not specifically mentioned.⁷

Since then, VC has become an inextricable part of patient care, with advances precipitated by public health measures

during COVID-19 pandemic.¹⁶ The rapid change to VC was problematic because physicians and the healthcare system were not fully prepared for this transition. The upcoming CanMEDS 2025 revision is an opportunity to align physician competencies with the tasks required in 21st century medicine including virtual care.

Table 1. Glossary of terms

Term	Definition
Chatbot	An electronic “conversational system” that “provides healthcare through natural conversation...making online healthcare more user-friendly...through a turn-taking dialog.” ¹⁰
Digital Health	Digital health is the use of information technology and electronic communication tools, services and processes to deliver health care services and facilitate better health. ⁹ It includes the use of, “wearable devices, mobile health, telehealth, health information technology, and telemedicine... data analytics and intelligence, predictive modelling...medical social media”, electronic medical records, and patient communication portals. ¹¹
eHealth	“The cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research.” ¹²
Extended reality	Using computers to enhance (ie: augmented reality [AR]) or replace (ie: virtual reality [VR]) a user’s environment with computer generated content. ¹³
mHealth	The use of mobile technology such as smartphones and wearable devices for the purposes of telehealth. ⁵
Telehealth	“The delivery of any component of health care or medical education at a distance.” ⁵ It includes both virtual care and the education of both healthcare professionals and patients. ⁵
Telemedicine	A “medical service provided remotely via information and communication technology” ¹⁴ such as a video or telephone consultation.
Virtual Care	“Any interaction between patients and/or members of their circle of care, occurring remotely, using any form of communication or information technologies, with the aim of facilitating or maximizing the quality of patient care.” ¹⁵ This includes but is not limited to telemedicine, mHealth, remote monitoring, and secure messaging via electronic medical records (EMRs). ¹⁵

How can VC be better represented within the 2025 CanMEDS competency framework?

With the growth of VC, physicians must adapt to performing in the virtual environment. This will require substantial modification of the physician competency framework. There is need to incorporate the greater dependence on these tools in the diagnosis and treatment of ailments across medical specialties and in peer-to-peer communication to optimize patient-centred team-based care.

We suggest changes to the CanMEDS Physician Competency Framework to better represent VC spanning all competencies and describe our recommendations and their rationale, broken down by CanMEDs role, in Table 2.

Overall, changes to the Medical Expert role focus on developing expertise using virtual tools to provide safe, comprehensive patient care. The Communicator role recognizes that communication skills are different in a virtual setting and emphasise that physicians need to be excellent communicators regardless of the use of technology. The Collaborator role is modified to include in-person and virtual collaboration in multidisciplinary teams. The Leader role highlights how the healthcare system is impacted by VC, and how new models of care (including VC) can improve upon current approaches to healthcare delivery. The Health Advocate role focuses on equitable access to VC, how digital health can be leveraged to identify community needs, and touches on media advocacy in the digital age. The Scholar role focuses on staying up to date with and using technology and recognizes that due to the internet, healthcare literature is evolving past the traditional journal article. Finally, the Professional role includes the skills and safeguarding mechanisms that have only now become necessary, given the increase in the use of VC.

Conclusion

The COVID-19 pandemic has abruptly forced VC to the forefront of patient care. Although it has been around since CanMEDS 2015, the competencies at the time focused substantially less on this new model of care. It is imperative that CanMEDS 2025 is updated to reflect competencies relevant to all environments, technologically enhanced or otherwise, so that physicians are truly prepared for practice relevant to societal needs and expectations.

Table 2. Virtual Care (VC) Competencies for the CanMEDS Physician Competency Framework.

A. CanMEDS 2015 Competencies directly applicable to VC	
Professional 1.5 "Exhibit professional behaviours in the use of technology-enabled communication"	
B. CanMEDS 2015 Competencies partially related to VC	
Communicator 3.1 Share information and explanations that are clear, accurate, and timely, while checking for patient and family understanding	
Communicator 4.3 Use communication skills and strategies that help patients and their families make informed decisions regarding their health	
C. Suggested additions or modifications for the CanMEDS 2025 Framework related to VC	
New or Modified Competency	Rationale for change
Medical Expert	
1.x (New): Utilise technology to provide high quality care to patients at a location remote from the physician.	Physicians need to know how to use appropriate technology to provide options for VC. ¹⁷ This includes telephone and videoconferencing technology, mobile applications, remote monitoring, ^{5,19} Chatbots, ¹⁰ and extended reality. ¹³
1.x (Previously proposed): Utilize digital tools for "disease surveillance, adverse event tracking, and risk management." ¹⁸	Data derived from digital health tools can provide important information that can then be used to drive need- and evidence-based change that will directly impact patient care. ¹⁸ Physicians should be familiar with its use and utilize the data appropriately.
2.2 (Modified): Elicit a history, perform a physical exam using remote monitoring devices if appropriate , select appropriate investigations, and interpret their results in both in-person and virtual environments for the purpose of diagnosis and management, disease prevention, and health promotion	At its core, VC is just patient care that is provided remotely. Physicians must have the expertise to utilise the tools at hand in any environment to provide high quality care.
2.x (New): Recognize limitations of care in the virtual environment and select patients for whom virtual care is safe, compassionate, and effective, seamlessly converting to in-person care when necessary.	VC is not appropriate in all cases. A physician must know the limitations of VC, how to overcome them, and when to choose using VC on its own or in combination with in-person care. ^{6,14,17}
4.x (New): Determine the most appropriate environment for ongoing care, virtual or in-person.	
Communicator	
1.2 (Modified): Optimize the physical or virtual environment for patient comfort, dignity, privacy, engagement, and safety	There are many ways that communication skills must be modified when providing VC. ^{5,17,19} Today's physicians must ensure they are able to communicate both in-person and remotely. ⁶
1.x (New): Recognize how the virtual environment impacts non-verbal communication and adapt communication skills to the virtual environment	
1.x (New): Utilize technology to enhance communication while maintaining appropriate boundaries	
2.1 (Modify): Use patient-centred interviewing skills to effectively gather relevant biomedical and psychosocial information both in-person and virtually	The virtual environment allows more efficient communication and can allow gathering of data not possible via other means. ⁶ However, it may also interfere with usual data gathering ² and information sharing if this skill is not explicitly taught.
3.1 (Modify): Share information and explanations that are clear, accurate, and timely both in-person and virtually , while checking for patient and family understanding	
4.3 (Modify): Use communication skills and strategies including selecting the appropriate in-person or virtual environment that help patients and their families make informed decisions regarding their health	Not all environments are ideal for all communication scenarios (20). Physicians must be able to select the appropriate setting for any interaction that will take place.
5.3 (Modify): Share information with patients and others in a manner that respects patient privacy, confidentiality, data security , and enhances understanding, including the use of patient portals and direct-to-patient communication tools	Physicians must ensure that communication with patients meets standards of patient privacy and confidentiality whether providing in-person or virtual care. ¹⁴
5.x (Previously proposed): "Direct patients to current, credible, and relevant consumer health information resources that are appropriate to their level of health information literacy" ¹⁸ including digital and virtual tools (e.g. videoconferencing tools, smart phone applications, Chatbots, websites)	Many digital health tools exist with variable degrees of credibility. A physician must be able to guide patients to the best resources available.
Collaborator	
1 (Modify): Work effectively in-person and virtually with physicians and other colleagues in the health care professions	Physicians are essential members of a multidisciplinary team. Collaboration with other disciplines is essential and since the skills used in these different environments may vary, the competency should be explicit in the requirement. ^{5,18}
3.2 (Modify): Demonstrate safe handover of care, virtually and in-person , using both verbal and written communication during a patient transition to a different health care professional, setting, or stage of care	
Leader	
1.2 (Modify): Contribute to a culture that promotes patient safety, recognizing the impact of the individual, system, and technology	CanMEDS 2015 states that "physicians demonstrate collaborative leadership and management within the healthcare system [and] contribute to the development and delivery of continuously improving health care and engage with others in working toward this goal." ⁷ Given the rising relevance of VC, the Leader role must be updated to incorporate competencies that consider the use of novel technologies.
3.x (Previously proposed): "Support technologies that protect the privacy of patients and confidentiality of their personal health information while achieving system efficiency, transformation of care processes, improved outcomes, and/or reduction in health care costs" ¹⁸	
3.2 (Modify): Facilitate change in health care to enhance health services and patient outcomes including implementing models of care using novel information technology	
Health Advocate	
1.1 (Modify): Work with patients to address determinants of health that affect them and equity of access to necessary and high quality in-person and virtual health services	VC has a risk of exacerbating health inequities across race, geography, sex, age, level of education, and household income. ²¹ Physicians must strive to provide equitable access to healthcare services, including telehealth. ⁶
3 (New): Ensure the accuracy of virtual medical communication	Physicians must recognize how permanent and powerful messages are in the online world ²² and that they have an important responsibility to ensure that information disseminated digitally is evidence-based and factual. ²³ This includes speaking out against misinformation that they encounter.
3.1 (New): Ensure that medical communication in traditional media outlets, digital messaging, and open social media networks are evidence-informed	
3.2 (Previously proposed) Correct "medical misinformation portrayed in social media." ¹⁸	

Scholar	
1.3 (Modify) Engage in collaborative learning both in-person and using technology to continuously improve personal practice and contribute to collective improvements in practice	Technology-enhanced learning will become more important in the future and should be recognized equally to in-person professional development. ¹⁸
1.x (Previously proposed): "Use information technologies to enhance knowledge, skill and judgement in the provision of evidence-informed patient care." ¹⁸	Technology is "revolutionising" the way that information is disseminated, consumed, and integrated to enhance patient care. ²⁴
3.3 (Modify) Critically evaluate the integrity, reliability, and applicability of health-related research, literature, and other scientific communication including but not limited to press releases, preprints, and digital health education resources (e.g. e-modules, infographics, blogs, podcasts, social media messages) to inform health care decisions	Physicians must be able to critically appraise traditional and novel, non-traditional methods of knowledge dissemination.
4.5 (Modify) Summarize and communicate to professional and lay audiences, including patients and their families, the findings of relevant research and scholarly inquiry, both in-person and virtually.	Dissemination of medical information has an immense impact on public health and can be achieved via multiple approaches including in-person and online (eg: social media, podcasts, blogs) means. ²⁵
Professional	
1.5 (Modify): Exhibit professional behaviours in the use of technology-enabled care and communication including appropriately identifying patients, obtaining informed consent for such care, and protecting their privacy	The digital and virtual world carries with it unique obligations and considerations when it comes to professionalism. ^{14,19,26} The permanency of virtual communication means that "a moment of rashness could have...irreversible consequences" including "loss of trust in the medical profession." ²⁷ Given the acceleration of this field, it is important that professionalism competencies address behaviours in both the virtual and in-person environments.
1.x (New): Demonstrate professional judgement in the use of technologies that support clinical assessment, interventions, and evaluation.	
2.x (Previously proposed): "Uphold professional obligations, comply with legislation, and maintain appropriate personal boundaries when engaging in the use of social media platforms and digital technologies to record, convey, and respond to information" ¹⁸ in a timely way, maintaining accuracy and privacy.	
3.1 (Modify): Fulfil and adhere to the professional and ethical codes, standards of practice, and laws governing practice, including when communicating digitally (for example when providing virtual care, interacting online or on social media).	
<i>Note: Modified competencies are bolded and underlined</i>	

Conflicts of Interest: Dr. Daniel Dubois has received payments for teaching and administrative work from the Royal College of Physicians and Surgeons of Canada and Royal College International. Dr. T. Chan reports an honoraria from McMaster University for her education research work with the McMaster Education Research, Innovation, and Theory (MERIT) group and administrative stipend for her role of associate dean via the McMaster Faculty of Health Sciences Office of Continuing Professional Development. She also discloses that she has received various unrelated research grants, teaching honoraria, and speakership fees from academic institutions (Baylor University/Texas Children's Hospital, Catholic University of Korea, Harvard Medical School, International Association of Medical Sciences Educators, Ontario College of Family Physicians, Northern Ontario School of Medicine, University of British Columbia, University of Northern British Columbia), non-profit organizations (PSI Foundation), physician organizations (Association of American Medical Colleges, Canadian Association of Emergency Physicians, Society of Academic Emergency Medicine, the Royal College of Physicians and Surgeons of Canada), and governmental sources (Government of Ontario, Virtual Learning Strategy eCampus Ontario program). Dr. Brent Thoma has received payments for teaching, research, and administrative work from the University of Saskatchewan College of Medicine, payments for teaching and administrative work from the Royal College of Physicians and Surgeons of Canada, honoraria for teaching or writing from Harvard Medical School, the New England Journal of Medicine, the University of Cincinnati Children's Hospital, and NYC Health + Hospitals, and research grant funding from the Government of Ontario and the Canadian Association of Emergency Physicians. Dr. K Ho receives funding from BC Ministry of Health for developing virtual care programs in BC, and receives clinical remuneration for doing virtual care shifts. He also receives grant funding from National Research Council, BC Supercluster, Sanctuary AI, and private donors through VGH & UBC Hospital foundation for conducting digital health research.

Funding: This project was completed with logistical support from the Royal College of Physicians and Surgeons of Canada.

Acknowledgement: The authors would like to acknowledge Ms. Megan McComb for planning and logistical support.

References

1. Snoswell CL, Chelberg G, De Guzman KR, et al. The clinical effectiveness of telehealth: a systematic review of meta-analyses from 2010 to 2019. *J Telemed Telecare*. 2021;1357633X211022907. <https://doi.org/10.1177/1357633X211022907>
2. Sartori DJ, Olsen S, Weinshel E, Zabar SR. Preparing trainees for telemedicine: a virtual OSCE pilot. *Med Educ*. 2019;53(5):517-8. <https://doi.org/10.1111/medu.13851>
3. Nochomovitz M, Sharma R. Is it time for a new medical specialty?: The medical virtualist. *JAMA*. 2018;319(5):437-8. <https://doi.org/10.1001/jama.2017.17094>
4. Pathipati AS, Azad TD, Jethwani K. Telemedical education: training digital natives in telemedicine. *J Med Internet Res*. 2016;18(7):e193. <https://doi.org/10.2196/jmir.5534>
5. Stovel RG, Gabarin N, Cavalcanti RB, Abrams H. Curricular needs for training telemedicine physicians: a scoping review. *Med Teach*. 2020;42(11):1234-42. <https://doi.org/10.1080/0142159X.2020.1799959>
6. Noronha C, Lo MC, Nikiforova T, et al. Telehealth competencies in medical education: new frontiers in faculty development and learner assessments. *J Gen Intern Med*. 2022. <https://doi.org/10.1007/s11606-022-07564-8>
7. Frank J, Snell L, Sherbino J, editors. *CanMEDS 2015 Physician Competency Framework*. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.
8. Thoma B, Karwowska A, Samson L, et al. Emerging concepts in the CanMEDS physician competency framework. *Can Med Ed J*. 2023. <https://doi.org/10.36834/cmej.75591>
9. Thoma B, Papirica P, Kaul P, Cheung W, Hall A, Affleck E. Data-Informed medicine in CanMEDS 2025. *Can Med Ed J*. 2023. <https://doi.org/10.36834/cmej.75440>

10. Jovanović M, Baez M, Casati F. Chatbots as conversational healthcare services. *IEEE Internet Computing*. 2020;25(3):44-51. <https://doi.org/10.1109/MIC.2020.3037151>
11. Ronquillo Y, Meyers A, Korvek SJ. Digital Health. StatPearls. Treasure Island (FL): StatPearls Publishing LLC.; 2022.
12. World Health Organization. *Regional action agenda on harnessing e-health for improved health service delivery in the Western Pacific*. 2019.
13. Andrews C, Southworth MK, Silva JN, Silva JR. Extended reality in medical practice. *Current treatment options in cardiovascular medicine*. 2019;21(4):1-12. <https://doi.org/10.1007/s11936-019-0722-7>
14. Federation of Medical Regulatory Authorities of Canada. *FMRAC framework on telemedicine*. Available from: <http://fmrac.ca/fmrac-framework-on-telemedicine>
15. Jamieson T, Wallace R, Armstrong K, et al. *Virtual care: a framework for a patient-centric system*. Toronto: Women's College Hospital Institute for Health Systems Solutions and Virtual Care. 2015:11.
16. Jumreornvong O, Yang E, Race J, Appel J. Telemedicine and medical education in the age of COVID-19. *Acad Med*. 2020;95(12):1838-43. <https://doi.org/10.1097/ACM.0000000000003711>
17. Affleck E, Hedden D, Osler FG. *Virtual Care Recommendations for Scaling up Virtual Medical Services*. Report of the Virtual Care Task Force. Canada; 2020 February 2020.
18. Ho K, Ellaway R, Littleford J, Hayward R, Hurley K. *The CanMEDS 2015 eHealth expert working group report*. Ottawa, Canada: The Royal College of Physicians and Surgeons of Canada; 2014 Feb 2014.
19. Sharma R, Nachum S, Davidson KW, Nochomovitz M. It's not just FaceTime: core competencies for the Medical Virtualist. *Int J Emerg Med*. 2019;12(1):8. <https://doi.org/10.1186/s12245-019-0226-y>
20. Vitto C, Del Buono B, Daniel L, Rivet E, Cholyway R, Santen SA. Teaching toolbox: breaking bad news with virtual technology in the time of COVID. *JCE*. 2021:1-4. <https://doi.org/10.1007/s13187-021-01975-7>
21. VanderBeek BL. Telemedicine and the exacerbation of health care disparities. *JAMA Ophthalmol* 2021;139(11):1182-3. <https://doi.org/10.1001/jamaophthalmol.2021.3735>
22. College of Physicians and Surgeons of Ontario. *Social media - appropriate use by physicians*. Available from: <https://www.cpso.on.ca/Physicians/Policies-Guidance/Statements-Positions/Social-Media-Appropriate-Use-by-Physicians#:~:text=Maintain%20appropriate%20professional%20boundaries%20with,with%20respect%20to%20physician%20advertising.>
23. Nguyen B-M, Lu E, Bhuyan N, Lin K, Sevilla M. Social media for doctors: taking professional and patient engagement to the next level. *FPM*. 2020;27(1):19-4.
24. Cheng TC, Fu H, Xu D, Yip W. Technology platforms are revolutionizing health care service delivery in China. *NEJM Catalyst Innovations in Care Delivery*. 2022;3(1).
25. Brownson RC, Eyler AA, Harris JK, Moore JB, Tabak RG. Research full report: getting the word out: new approaches for disseminating public health science. *JPHMP*. 2018;24(2):102. <https://doi.org/10.1097/PHH.0000000000000673>
26. Mostaghimi A, Crotty BH. *Professionalism in the digital age*. American College of Physicians; 2011. p. 560-2. <https://doi.org/10.7326/0003-4819-154-8-201104190-00008>
27. Gholami-Kordkheili F, Wild V, Strech D. The impact of social media on medical professionalism: a systematic qualitative review of challenges and opportunities. *JMIR*. 2013;15(8):e184. <https://doi.org/10.2196/jmir.2708>