Family Practice, 2024, **XX**, 1–6
https://doi.org/10.1093/fampra/cmae061
Qualitative Research

OXFORD

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024

Delphi definition of general practice/family medicine specialty for a post-COVID world: in-person and remote care delivery

Filipe Prazeres[1,2,3,*], Marc Jamoulle[4,5], Ana Kareli[6], Claire Collins[7,8], Csaba Móczár[9], Martin C.S. Wong[10,11,12,13], Sudip Bhattacharya[14], Shlomo Vinker[15,16,17], L. Leng Low[18,19], Suraya Abdul-Razak[20], Joanne Brooke[21], Mohamud A. Verjee[22], Hakan Yaman[23], Pramendra Prasad[24], Jens Søndergaard[25], Dimity Pond[26,27], Lloyd Hughes[28,29], Fatma Goksin Cihan[30], Zoi Tsimtsiou[31], Christopher Harrison[32], Loai Albarqouni[33], Beibei Yuan[34], Y. Kong Lee[35], Paul Van Royen[36], Indiran Govender[37], Bengt B. Arnetz[38], Catherine A. O'Donnell[39]

[1]Department of Medical Sciences, Faculty of Health Sciences, University of Beira Interior, Av. Infante D. Henrique, 6200-506 Covilhã, Portugal
[2]Family Health Unit Beira Ria, Rua Padre Rubens, 3830-596 Gafanha da Nazaré, Portugal
[3]CINTESIS@RISE, MEDCIDS, Faculty of Medicine of the University of Porto, Rua Dr. Plácido da Costa, 4200-450 Porto, Portugal
[4]HEC University of Liège, Management Information Systems, Rue Louvrex 14, 4000 Liège, Belgium
[5]Digital Health Laboratory, Rouen University, 1 rue de Germont, 76031 Rouen Cedex, France
[6]Georgia Family Medicine Association, Tbilisi State Medical University, 33 Vazha-Pshavela Ave, Tbilisi 0186, Georgia
[7]Irish College of General Practitioners, 4-5 Lincoln Place, Dublin 2, D02 XR68, Ireland
[8]Department. of Public Health and Primary Care, Ghent University, Ghent 10 9000, Belgium
[9]Department of Family Medicine, Semmelweis University, Stáhly str. 7-9. 5.floor, 1085 Budapest, Hungary
[10]JC School of Public Health and Primary Care, The Faculty of Medicine, The Chinese University of Hong Kong, Room 202, School of Public Health Building, Prince of Wales Hospital, Shatin, New Territories, Hong Kong
[11]The Chinese Academy of Medical Sciences and the Peking Union Medical College, Beijing, 100037 China
[12]School of Public Health, The Peking University, Health Science Center, No. 38 Xueyuan Road, Haidian District, Beijing, 100191, P. R. China
[13]School of Public Health, Fudan University, 130 Dongan Road, Xuhui, Shanghai, 200032, P. R. China
[14]Department of Community and Family Medicine, Academic Building, Zone-1, Floor-1, All India Institute of Medical Sciences, Devipur Campus, Deoghar, Jharkhand, 814152 India
[15]Department of Family Medicine, Faculty of Medical & Health Sciences, Tel Aviv University, P.O. Box 39040, Tel Aviv 6997801, Israel
[16]Medical Branch, Leumit Health services, Shprintzak 23, Tel Aviv 647381, Israel
[17]WONCA Europe, oljanski nasip 58, 1000 Ljubliana, Slovenia
[18]SingHealth Duke-NUS Family Medicine Academic Clinical Program, Duke-NUS Medical School, Khoo Teck Puat Building, 8 College Road, 169857, Singapore
[19]SingHealth Community Hospitals, Singapore
[20]Department of Primary Care Medicine, Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus, Selangor Branch, 47000 Jalan Hospital, Sungai Buloh, Selangor, Malaysia
[21]College of Nursing and Midwifery, Birmingham City University, South Campus, Westbourne Road, Birmingham, B15 3TN, England
[22]Medical Education, Weill Cornell Medicine-Qatar, Qatar Foundation-Education City, P.O. Box 24144, Doha, State of Qatar
[23]Anatolia Hospital, Caybasi Mah. 1352 Sk.8, 07200 Antalya, Türkiye
[24]Department of General Practice and Emergency Medicine, B.P.Koirala Institute of Health Sciences, Buddha Chowk, Dharan, Sunsari, Koshi Province, Nepal
[25]Research Unit of General Practice, Department of Public Health, University of Southern Denmark, Campusvej 55, 5230 Odense, Denmark
[26]University of New England, Elm Avenue, Armidale NSW 2351, Australia
[27]Wicking Dementia Research and Teaching Centre, University of Tasmania, 17 Liverpool Street, Hobart TAS 7000, Australia
[28]School of Medicine, University of Dundee, Ninewells Hospital & Medical School DD1 9SY, United Kingdom
[29]School of Medicine, University of St Andrews, North Haugh, St Andrews, KY16 9TF, United Kingdom
[30]Department of Family Medicine, Faculty of Medicine, Necmettin Erbakan University, Abdulhamid Han Street, Selcuklu, Konya, Turkey
[31]Department of Hygiene, Social-Preventive Medicine and Medical Statistics, School of Medicine, Aristotle University of Thessaloniki, University Campus, 54124 Thessaloniki, Greece
[32]Sydney School of Public Health, Faculty of Medicine and Health, Edward Ford Building, University of Sydney, Camperdown, NSW, 2006, Australia

© The Author(s) 2024. Published by Oxford University Press. All rights reserved. For commercial re-use, please contact reprints@oup.com for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact journals.permissions@oup.com.

Key messages

- Telemedicine is becoming a fundamental part of general practice (GP)/family medicine (FM).
- Pre-COVID-19 definitions of GP/FM did not mention telemedicine.
- This post-COVID-19 consensus definition, may improve overall healthcare delivery.
- GP/FM of the future: in-person or remote care delivery.

[33]Institute for Evidence-Based Healthcare, Faculty of Health Sciences and Medicine, Bond University, University Drive Gold Coast, QLD, 4229, Australia
[34]China Center for Health Development Studies, Peking University, XueYuan Road 38, Mailbox 505, Haidian District, Beijing 100191, China
[35]Department of Primary Care Medicine, Faculty of Medicine, Universiti Malaya, 50603 Kuala Lumpur, Malaysia
[36]Department of Family Medicine and Population Health, Faculty of Medicine and Health Sciences, University of Antwerp, Doornstraat 331, 2610 Wilrijk, Belgium
[37]Department of Family Medicine and Primary Health Care, Sefako Makgatho Health Sciences University, Molotlegi Street, Ga-Rankuwa, Pretoria, Gauteng, South Africa
[38]Department of Family Medicine, College of Human Medicine, Michigan State University, Secchia Center, 15 Michigan Street NE, Grand Rapids, MI 49503, United States
[39]General Practice and Primary Care, School of Health and Wellbeing, University of Glasgow, Clarice Pears Building, 90 Byres Road, Glasgow G12 8TB, United Kingdom
[*]Corresponding author. Department of Medical Sciences, Faculty of Health Sciences, University of Beira Interior, Av. Infante D. Henrique, 6200-506 Covilhã, Portugal. E-mail: filipeprazeresmd@gmail.com

Abstract

Introduction: The evolving landscape of general practice (GP)/family medicine (FM) in the post-COVID-19 era, focussing on integrating telemedicine and remote consultations requires a new definition for this specialty. Hence, a broader consensus-based definition of post-COVID-19 GP/FM is warranted.

Methods: This study involved a modified electronic Delphi technique involving 27 specialists working in primary care recruited via convenient and snowball sampling. The Delphi survey was conducted online between August 2022 and April 2023, utilizing the Google Forms platform. Descriptive statistics were employed to analyse consensus across Delphi rounds.

Results: Twenty-six international experts participated in the survey. The retention rate through the second and third Delphi rounds was 96.2% (n = 25). The broader consensus definition emphasizes person-centred care, collaborative patient-physician partnerships, and a holistic approach to health, including managing acute and chronic conditions through in-person or remote access based on patient preferences, medical needs, and local health system organization.

Conclusion: The study highlights the importance of continuity of care, prevention, and coordination with other healthcare professionals as core values of primary care. It also reflects the role of GP/FM in addressing new challenges post-pandemic, such as healthcare delivery beyond standard face-to-face care (e.g. remote consultations) and an increasingly important role in the prevention of infectious diseases. This underscores the need for ongoing research and patient involvement to continually refine and improve primary healthcare delivery in response to changing healthcare landscapes.

Keywords: general practice; family medicine; COVID-19; telemedicine

Background

COVID-19 is a respiratory disease caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) virus, detected in China in late 2019 [1]. It rapidly spread worldwide and was declared a pandemic on 11 March 2020, by the World Health Organization. However, it ceased to be an international public health emergency in May 2023 [2].

The COVID-19 pandemic compelled governments to rapidly implement policies to re-orient healthcare delivery to ensure that care could continue to be delivered safely. The key to this approach was encouraging telemedicine (i.e. remote medical services) as a means of delivery [3]. General practitioners/family doctors provide services characterized by a high degree of accessibility, first-contact care, and individual continuity of care within the healthcare system, and as such, increasingly utilize remote access to health services, as a way to continue patient care while mitigating face-to-face interactions. For example, in England, the number of telephone consultations nearly tripled from 2 203 203 in February 2020 to 6 221 869 in August 2021 [4]. In the USA, a similar trend was observed, with a significant increase in online health services during the early stages of the COVID-19 pandemic, which subsequently stabilized at levels substantially higher than those recorded before the pandemic [5]. In Beijing, China, hospital online consultations increased by approximately 90% following the COVID-19 outbreak [6].

A recently published literature review that analysed US outpatient setting telemedicine data from March 2020 to February 2023 showed high patient and physician satisfaction and indicated that it has not had a negative impact on clinical outcomes or resulted in increasing healthcare costs [5]. In a Portuguese study of National Health Service physicians [7], 93.8% engaged in telemedicine during the COVID-19 pandemic, expressing high satisfaction and suggestions that it offers healthcare quality equivalent to face-to-face consultations. Additionally, 70.4% of physicians expressed interest in continuing follow-up teleconsultations [7].

If during the COVID-19 pandemic, the necessity of social distancing and lockdowns prompted patients and physicians to embrace the convenience and ease of access to remote healthcare options [8], it is also recognized that for adults accessing primary care services, telephone, or video consultations can be effective in improving clinical outcomes as

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024

face-to-face visits, with consistently high patient satisfaction and therapeutic alliance, as shown in a recently published review [9]. However, differences among certain populations (such as those experiencing social deprivation or homelessness) suggest a need for further study and may require targeted interventions to maintain the quality of care [10].

Utilizing remote consultations can also be a means to improve accessibility to primary care, enabling general practitioners/family doctors to address patients in need of face-to-face appointments promptly [4]. Remote consultation might also address concerns regarding the lack of trust in healthcare systems, particularly during infectious disease outbreaks [11]. Nowadays, digital maturity in primary care is considered within the positive spectrum [12].

The continuation of this virtual connection between patients and general practitioners/family doctors is essential in the post-COVID era [13]. The Royal College of General Practitioners, in its document 'General Practice in the Post-COVID World' [14], suggests that online health services should complement face-to-face consultations. Determining its use should involve shared decision-making, considering the patient's needs and the general practitioners/family doctors' knowledge of the individual [14]. Regulatory changes are also facilitating the expanded use of telemedicine, leading to a surge in investment in virtual care and digital health, resulting in the evolution and proliferation of virtual healthcare models and business approaches [15].

With the current paradigm shift in GP, where telemedicine is becoming a fundamental part of clinical practice, the definition of GP/FM should encompass this. Pre-COVID-19 definitions from well-known organizations and committees including the American Academy of Family Physicians [16] and the World Organization of Family Doctors (WONCA) [17] do not reference telemedicine, and clear definitions are vital when funding and policy discussions are held. Thus, the first author of the present paper constructed a new definition for 'Post-COVID-19 General Practice/Family Medicine' [18] through an informal literature review and disseminated it on the online platform Qeios (https://www.qeios.com/read/4VGMUN) on 20 November 2021. This reads:

> *General practice/family medicine is defined as the medical speciality that is attentive to the overall health and well-being of patients, from birth to death, and manages common acute and chronic health conditions of patients of all ages, either in-person or by telemedicine based on patients' preferences and medical needs* [18].

This definition was intended not only to be simplified and updated to take account of the increasing role of remote consulting, but also to maintain important and well-known characteristics associated with the discipline of general practice (GP)/family medicine (FM) including the promotion of health and well-being, consistent from birth until death, and the management of acute and chronic health problems [17].

Consequently, the present study's objective was to reach a broader consensus-based definition of post-COVID-19 GP/FM.

Methods

Study design

A panel of 27 specialists working in primary care was convened to participate in a modified electronic Delphi technique [19–22] aiming to reach a consensus definition of GP/FM in the post-COVID-19 period. The Delphi survey was conducted online between August 2022 and April 2023, utilizing the Google Forms platform. One of the specialists, who authored the previously mentioned definition, took on the pivotal role of coordinating the consensus process. This specialist abstained from participating in the voting stage of the Delphi process.

The Ethics Committee of the University of Beira Interior—Portugal, approved the study (CE-UBI-Pj-2022-047-ID1433).

The Guidance on Conducting and REporting DElphi Studies (Supplementary materials) [23] was used to ensure proper reporting in the present study.

Survey structure

The survey commenced by requesting the 26 specialists to rate the original post-COVID-19 GP/FM definition [18] on a Likert-type ordinal scale of 1 to 9 (1 = absolutely no agreement and 9 = full agreement). No extra information regarding GP/FM components was provided for inclusion in the definition. Consensus, following the approach of previous Delphi studies [24], was defined by at least 70% of the panel members rating it seven or above, with ratings below seven requiring justifications. After each round of responses, the results and justifications were analysed, and the main coordinator of the consensus process consolidated the justifications for non-consensual definition. Since no consistent method for reporting exists, and the reduction of peer pressure to conform (conformity bias) was intended, it was decided that the expert panel would not have access to the individual experts' justifications. Subsequently, a new Delphi round with a revised definition was initiated. Participants were free to reconsider their responses on each Delphi round. This iterative process continued until consensus was achieved.

The survey also included questions characterizing participants' demographics (age and sex), professional roles, years working in primary care, and publications related to primary care.

Eligibility and recruitment

Targeting a minimum of 10–15 international participants for the Delphi panel [25], individuals actively working, teaching, and/or publishing in primary care were recruited through convenience and snowball sampling methods [26]. Invitations to participate were sent to the email addresses of the members of the World Organization of Family Doctors (WONCA) International Classification Committee, editorial board members of an international primary care journal, and the main coordinator of the consensus process professional network contacts. Subsequently, they were encouraged to recruit others from among their acquaintances. No reimbursement was provided.

Data collection

The surveys were conducted using the Google Forms platform, accessible through a direct link embedded within invitation emails. Before initiating the survey, all panel specialists electronically signed the online informed consent form.

Data analysis

Descriptive statistics, including central tendency and dispersion measures, were employed to analyse consensus across

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024

Delphi rounds, using the IBM SPSS Statistics for Windows (version 21.0. Armonk, NY: IBM Corp.).

Results

Twenty-six international experts participated in the Delphi study. The Delphi panel members were from Australia (*n* = 3), UK (*n* = 3), Belgium (*n* = 2), Malaysia (*n* = 2), Turkey (*n* = 2), Georgia (*n* = 1), Ireland (*n* = 1), Hungary (*n* = 1), Hong Kong Special Administrative Region of the People's Republic of China (*n* = 1), India (*n* = 1), Israel (*n* = 1), Singapore (*n* = 1), Qatar (*n* = 1), Nepal (*n* = 1), Denmark (*n* = 1), Greece (*n* = 1), China (*n* = 1), South Africa (*n* = 1), and USA (*n* = 1). Participants' characteristics are depicted in Table 1.

Since only one participant failed to respond, the retention rate through the second and third Delphi rounds was 96.2% (*n* = 25).

Table 1. Delphi panel members characteristics, 26 international experts, 2022–2023.

Variables	Description
Sex, *n* (%)	
Male	18 (69.2)
Female	8 (30.8)
Age, mean (SD), min–max, years	52.9 (12.3), 33–75
Professional role[a], *n* (%)	
Professor/Academic	15 (57.7)
General Practitioner/Family Physician	13 (50.0)
Experience in primary care, mean (SD), min–max, years	23.5 (12.0), 4–49
Publications in primary care, mean (SD), min–max	98.5 (95.2), 3–350

[a]Regarding the professional role respondents could select both categories, explaining the above 100%.

Table 2 shows that the initially proposed definition for post-COVID-19 GP/FM did not achieve consensus in the first Delphi round. Two subsequent rounds of revisions were necessary, and a consensus was reached in the third Delphi round. The consensus rate dropped in the second round, which was expected due to the tentative inclusion of all expert panel comments from the first round in the definition presented in the second round. Twenty-three out of 25 participants rated the third-round definition as seven or above (maximum score of 9). Although in the third Delphi round, three-panel members provided reasons for rating it below seven, their input could not be incorporated due to conflicting opinions with the other panel members. Achieving a 100% consensus was not possible. However, it should be noted that the level of agreement was high, obtaining an 88% agreement.

Discussion

In the present study, the definition of post-COVID-19 GP/FM was established through consensus using three rounds in an electronic Delphi technique:

> *General practice/family medicine is a first-contact general medical specialty that is person-centered and fosters a collaborative patient-physician partnership. It addresses the physical, psychological, and social aspects of patients' health across the life cycle, including the management of acute, chronic, and multimorbid health conditions, both common and rare, with patients and their families. This care is based on patients' preferences, medical needs, and local health system organization, and can be delivered either in-person or by remote access. General practice/family medicine also emphasizes the importance of prevention, including measures to prevent the spread of infectious diseases. Additionally, it provides continuity of care to patients and works closely with other healthcare professionals to coordinate care for their patients.*

Table 2. Delphi rounds 1, 2, and 3 (scores), 26 international experts, 2022–2023.

Post-COVID-19 GP/FM definition	Consensus (7 or above), %	Mean (SD) ratings
First Delphi round (original definition) (*n* = 26)	69.2%	7.3 (1.6)
GP/FM is defined as the medical speciality that is attentive to the overall health and well-being of patients, from birth to death, and manages common acute and chronic health conditions of patients of all ages, either in-person or by telemedicine based on patients' preferences and medical needs [18].		
Second Delphi round (*n* = 25)	64.0%	7.4 (1.7)
GP/FM is defined as the first-contact general medical specialty that is person-centred, committed to high ethical and environmental standards, addresses the physical, psychological, and social aspects of patients' health, from birth to death, promotes prevention, and manages acute and multimorbid health conditions with patients of all ages and their families, in outpatient or community settings, either in-person or by remote access based on patients' preferences, medical needs and local health system organization.		
Third Delphi round (*n* = 25)	88.0%	7.8 (1.6)
GP/FM is a first-contact general medical specialty that is person-centred and fosters a collaborative patient-physician partnership. It addresses the physical, psychological, and social aspects of patients' health across the life cycle, including the management of acute, chronic, and multimorbid health conditions, both common and rare, with patients and their families. This care is based on patients' preferences, medical needs, and local health system organization, and can be delivered either in-person or by remote access. GP/FM also emphasizes the importance of prevention, including measures to prevent the spread of infectious diseases. Additionally, it provides continuity of care to patients and works closely with other healthcare professionals to coordinate care for their patients.		

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024

The generalizability of this new definition, supported by the substantial number of Delphi panel participants, their geographic diversity, extensive experience in primary care, and the high retention rate throughout the Delphi rounds, is a major strength of the present work. Nevertheless, a Delphi study inherently relies exclusively on expert opinions to yield results [27], presenting a potential limitation in the current study. Despite this, given the perceived necessity to obtain an expert consensus in addressing the present research question, this methodology was considered the most appropriate. Another area for improvement is the need for more involvement from patients or the public, so this is only a definition from the care providers' perspective.

As expected in the post-COVID-19 pandemic scenario, the consensus version retained the possibility of remote patient care as stated in the originally proposed definition. Still, it emphasized that the type of care should be based on patients' preferences, medical needs, and the organization of the local health system. This suggestion is because the realities of human and material resources [28], and consultation times [29], may vary from country to country. Another important aspect of the definition is the inclusion of the role of GP/FM in preventing infectious diseases. Before the COVID-19 pandemic, this role was less emphasized in several parts of the world because of a focus on managing chronic conditions by general practitioners/family physicians [30] and multiple chronic health problems—multimorbidity [31]. These aspects are also clearly present in this new definition.

The post-COVID-19 consensus definition features the significance of remote patient care as a defining feature of GP/FM. Within GP/FM, remote service delivery encompasses the delivery of healthcare where patient and clinician are separated by space. Prior to the COVID-19 pandemic, definitions of GP/FM typically suggested that continuity of care and personal alignment required physical meetings between the provider and the patient. However, experiences with remote patient care during the pandemic clearly demonstrated that in-person meetings did not necessarily offer an advantage over virtual ones. Instead, decisions regarding the type of visits should consider patients' preferences, medical needs, and the organization of the local health system. This approach prioritizes increased accessibility by removing geographical constraints, reducing travel requirements, and offering flexible scheduling to minimize time constraints. However, the success of remote access to care relies on robust technology infrastructure, digital literacy among healthcare providers and patients, and supportive regulatory frameworks addressing concerns such as data privacy and reimbursement policies. It may also increase inequalities in access if it enhances the digital divide [32–34] and may interfere with the private life-work balance as remote consultations have the above influence on patients and physicians.

The present definition also incorporates essential elements of the discipline and specialty of GP/FM, aligning with the European definition set by WONCA Europe, including its latest update published after the conclusion of this Delphi process [35]: i) first-contact general medical specialty; ii) person-centred; iii) establishment of a therapeutic relationship with patients and their families that is collaborative and continuous; iv) addressing the physical, psychological, and social aspects of patients' health; and iv) coordination of care.

By embracing all the elements of the present post-COVID-19 consensus definition, healthcare providers can potentially improve accessibility, convenience, and overall healthcare delivery. Nonetheless, these GP/FM changes were created as part of the pandemic circumstances. For the future, we need a proactive approach to evaluating the impact on medical education, workload, burnout, and many other aspects of family medicine.

Lastly, given the importance of patient preferences, more research is needed involving patients in defining the essential elements of the discipline and specialty of GP/FM in alignment with patients' needs, fostering a respectful and responsive approach. Patient perspectives enhance communication, ensuring that medical terms resonate with their understanding, promoting clearer dialogue, and contributing to improved overall comprehension of the doctor–patient relationship [36].

In conclusion, the consensus definition of post-COVID-19 GP/FM developed in this international Delphi process includes new elements related to the post-pandemic scenario while respecting the core values of this medical specialty. Primary healthcare practices can enhance overall healthcare delivery by adopting this definition. While acknowledging that general practitioners and family physicians are embedded in their communities, their intimate knowledge of their surroundings informs the adaptability required to provide optimal patient care in any given situation. Consequently, the current definition remains open to future updates to ensure it reflects the daily GP care delivered by clinicians.

Supplementary material

Supplementary material is available at *Family Practice* online.

Author contributions

All authors had full access to the data and took responsibility for the integrity of the data and the accuracy of the analysis.

Conflict of interest statement

None declared.

Ethical approval

The Ethics Committee of the University of Beira Interior—Portugal, approved the study (CE-UBI-Pj-2022-047-ID1433).

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data availability

The data underlying this article will be shared on reasonable request to the corresponding author.

References

1. Du Toit A. Outbreak of a novel coronavirus. *Nat Rev Microbiol* 2020;**18**:123. https://doi.org/10.1038/s41579-020-0332-0
2. WHO. *Coronavirus Disease (COVID-19) Pandemic*. 2024. www.who.int/europe/emergencies/situations/covid-19 (16 February 2024, date last accessed).

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024

3. OECD. *The Future of Telemedicine After COVID-19*. 2023. https://www.oecd.org/en/publications/the-future-of-telemedicine-after-covid-19_d46e9a02-en.html (7 November 2024, date last accessed).
4. Green MA, McKee M, Katikireddi SV. Remote general practitioner consultations during COVID-19. *Lancet Digit Health* 2022;**4**:e7. https://doi.org/10.1016/S2589-7500(21)00279-X
5. Andino JJ, Eyrich NW, Boxer RJ. Overview of telehealth in the United States since the COVID-19 public health emergency: a narrative review. *Mhealth* 2023;**9**:26. https://doi.org/10.21037/mhealth-23-15
6. Zhang S, Ma C. How has the COVID-19 pandemic affected the utilisation of online consultation and face-to-face medical treatment? An interrupted time-series study in Beijing, China. *BMJ Open* 2023;**13**:e062272. https://doi.org/10.1136/bmjopen-2022-062272
7. O'Neill C, Matias MV, Peixoto VR, *et al*. [Teleconsultation in the Portuguese National Health Service during the COVID-19 pandemic: a survey of physicians' views and future implications]. *Acta Med Port* 2022;**35**:455–67. https://doi.org/10.20344/amp.16724
8. Verma P, Kerrison R. Patients' and physicians' experiences with remote consultations in primary care during the COVID-19 pandemic: a multi-method rapid review of the literature. *BJGP Open* 2022;**6**:BJGPO.2021.0192. https://doi.org/10.3399/BJGPO.2021.0192
9. Carrillo de Albornoz S, Sia KL, Harris A. The effectiveness of teleconsultations in primary care: systematic review. *Fam Pract* 2022;**39**:168–82. https://doi.org/10.1093/fampra/cmab077
10. Kee D, Verma H, Tepper DL, *et al*. Patient satisfaction with telemedicine among vulnerable populations in an urban ambulatory setting. *Mayo Clin Proc Digital Health* 2024;**2**:8–17. https://doi.org/10.1016/j.mcpdig.2023.11.004
11. Arnetz BB, Goetz C, vanSchagen J, *et al*. Patient-reported factors associated with avoidance of in-person care during the COVID-19 pandemic: results from a national survey. *PLoS One* 2022;**17**:e0272609. https://doi.org/10.1371/journal.pone.0272609
12. Teixeira F, Li E, Laranjo L, *et al*. Digital maturity and its determinants in general practice: a cross-sectional study in 20 countries. *Front Public Health* 2022;**10**:962924. https://doi.org/10.3389/fpubh.2022.962924
13. Grattagliano I, Rossi A, Cricelli I, *et al*. The changing face of family medicine in the COVID and post-COVID era. *Eur J Clin Invest* 2020;**50**:e13303. https://doi.org/10.1111/eci.13303
14. RCGP. *General Practice in the Post Covid World: Challenges and Opportunities for General Practice*. 2020. https://allcatsrgrey.org.uk/wp/download/primary_care/general-practice-post-covid-rcgp.pdf (16 February 2024, date last accessed).
15. Gilbert G, Harris A, Rost J. *Telehealth: A Quarter-Trillion- Dollar Post-COVID-19 Reality?*. 2020. https://connectwithcare.org/wp-content/uploads/2021/07/telehealth-a-quarter-trillion-dollar-post-covid-19-reality.pdf (16 February 2024, date last accessed).
16. AAFP. *Family Medicine, Definition of*. 2024. https://www.aafp.org/about/policies/all/family-medicine-definition.html (22 August 2024, date last accessed).
17. EURACT. *The European Definition of General Practice/Family Medicine*. Short version. 2011. https://www.woncaeurope.org/file/69dc3969-4c7f-4387-9ade-23845452bb03/Definition%20EURACTshort%20version%20revised%202011%20%281%29.pdf (7 November 2024, date last accessed).
18. Prazeres F. Definition of Post-COVID-19 General practice/family medicine. Qeios 2021. https://doi.org/10.32388/4VGMUN
19. Habibi A, Sarafrazi A, Izadyar S. Delphi technique theoretical framework in qualitative research. *Int J Eng Sci* 2014;**3**:8–13.
20. Prazeres F, Simoes JA. Key factors to consider in team meetings when dealing with multimorbidity in primary care: results from a Delphi panel. *Cureus* 2019;**11**:e4990. https://doi.org/10.7759/cureus.4990
21. Nasa P, Jain R, Juneja D. Delphi methodology in healthcare research: how to decide its appropriateness. *World J Methodol* 2021;**11**:116–29. https://doi.org/10.5662/wjm.v11.i4.116
22. Spranger J, Homberg A, Sonnberger M, *et al*. Reporting guidelines for Delphi techniques in health sciences: a methodological review. *Z Evid Fortbild Qual Gesundhwes* 2022;**172**:1–11. https://doi.org/10.1016/j.zefq.2022.04.025
23. Junger S, Payne SA, Brine J, *et al*. Guidance on Conducting and REporting DElphi Studies (CREDES) in palliative care: recommendations based on a methodological systematic review. *Palliat Med* 2017;**31**:684–706. https://doi.org/10.1177/0269216317690685
24. Prazeres F, Santiago LM, Simoes JA. Defining multimorbidity: from English to Portuguese using a Delphi technique. *Biomed Res Int* 2015;**2015**:965025. https://doi.org/10.1155/2015/965025
25. Hsu C-C, Sandford BA. The Delphi technique: making sense of consensus. . *Pract Assess Res Eval* 2007;**12**:1–8.
26. Parker C, Scott S, Geddes A. Snowball sampling. In: Atkinson P, Delamont S, Cernat A, Sakshaug JW, Williams RA (eds.), *SAGE Research Methods Foundations*. London: SAGE Publications Ltd, 2019.
27. Barrett D, Heale R. What are Delphi studies? *Evid Based Nurs* 2020;**23**:68–9. https://doi.org/10.1136/ebnurs-2020-103303
28. Arya N, Gibson C, Ponka D, *et al*. Family medicine around the world: overview by region. *Can Fam Physician* 2017;**63**:436–41.
29. Irving G, Neves AL, Dambha-Miller H, *et al*. International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open* 2017;**7**:e017902. https://doi.org/10.1136/bmjopen-2017-017902
30. Pinto D, Corte-Real S, Nunes JM. Actividades preventivas e indicadores—Quanto tempo sobra? *Rev Port Clin Geral* 2010;**26**:455–64.
31. van den Akker M, Buntinx F, Metsemakers JFM, *et al*. Multimorbidity in general practice: prevalence, incidence, and determinants of co-occurring chronic and recurrent diseases. *J Clin Epidemiol* 1998;**51**:367–75. https://doi.org/10.1016/s0895-4356(97)00306-5
32. Hughes HK, Hasselfeld BW, Greene JA. Health care access on the line - audio-only visits and digitally inclusive care. *N Engl J Med* 2022;**387**:1823–6. https://doi.org/10.1056/NEJMp2118292
33. Kaihlanen AM, Virtanen L, Buchert U, *et al*. Towards digital health equity—a qualitative study of the challenges experienced by vulnerable groups in using digital health services in the COVID-19 era. *BMC Health Serv Res* 2022;**22**:188. https://doi.org/10.1186/s12913-022-07584-4
34. van Deursen AJ. Digital inequality during a pandemic: quantitative study of differences in COVID-19-related internet uses and outcomes among the general population. *J Med Internet Res* 2020;**22**:e20073. https://doi.org/10.2196/20073
35. Wonca Europe. *The European Definition of General Practice/Family Medicine - 2023 Edition*. 2023. https://www.woncaeurope.org/file/0dce3f9f-e60f-4416-b257-4698590bd0c9/WONCA_European_Definitions_2_v7%20(1).pdf (16 February 2024, date last accessed).
36. Drossman DA, Chang L, Deutsch JK, *et al*. A review of the evidence and recommendations on communication skills and the patient-provider relationship: a Rome foundation working team report. *Gastroenterology* 2021;**161**:1670–88.e7. https://doi.org/10.1053/j.gastro.2021.07.037

Downloaded from https://academic.oup.com/fampra/advance-article/doi/10.1093/fampra/cmae061/7904889 by Chinese University of Hong Kong user on 02 December 2024