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Factors affecting how Australian doctors view and use social media: a follow-up national survey

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Abstract

The pervasive influence of social media has transformed communication globally, including within the medical profession. Despite policies and guidelines by professional bodies, many doctors remain cautious about social media use. This study aimed to provide a comprehensive reassessment of Australian doctors' social media use and attitudes by comparing results from a 2014 national survey to data from 2019. A random sample of 9,000 medical practitioners yielded 565 respondents. The survey examined five areas of online interaction: usage patterns, online behavior, personal information, patients' information, and doctor-patient interactions. Results showed an increase in social media use, with 81.5% of doctors using it during non-work hours and 47.5% during work hours. However, only 33.9% of doctors reported communicating with patients online, with most (76.5%) citing concern with potential legal issues in online patient interaction. Additionally, only 44.8% of all practices had a social media policy that participants were aware of. Our study underscores the need for better training and support to enhance online engagement and patient care, highlighting the slow progress in integrating social media into clinical practice. Improved awareness, policy implementation, and education are crucial to support doctors in navigating online interactions safely and effectively.

Keywords: social media; professional practice; internet; health communication; ethics; patient-physician relations; health policy

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1. Introduction

The digital revolution driven by social media is reshaping the way doctors navigate their professional roles in an increasingly connected world. Over the past decade, social media's pervasive influence has not only transformed personal interactions but also redefined professional boundaries, including within the medical field [1]. As these platforms become integral to modern life, concerns about appropriate interactions between doctors and patients on social media have grown. In response, leading medical professional bodies have established policies and guidelines to manage these evolving dynamics [2, 3]. Despite these efforts, most doctors continue to approach social media with caution, reflecting ongoing uncertainty and apprehension [4].

The first national study of how Australian doctors view and use social media was published in 2014 [5]. This study identified surprisingly low levels of internet use by doctors to communicate with patients, and discomfort in the wake of patient contact over social media. Notably, this study found that two thirds of doctors were reluctant to commit to an online presence because of uncertainties about legal and ethical questions. The results of this study provided evidence-based findings to inform the development of professional social media policy for clinicians [6-8].

Since this last study, there has been continued expansion of social media into everyday life, including the medical field [9, 10]. For example, the notable presence of *health influencers* on social media platforms such as Instagram and TikTok. Health influencers are sometimes, but not always, doctors and other health professionals who have adopted an online persona to share information, advice, and opinions related to health and wellness [11, 12]. Despite a proliferation of medical social media resources and guidelines for appropriate communication, social media's shifting formats and practices require constant adaptation undermining familiarity [13]. This, along with the frequent scandals surrounding use of social media by physicians [14, 15], has resulted in different levels of comfort in use.

Recent research has identified numerous barriers to doctors immersing themselves further into social media, including: a generational divide, ongoing safety concerns such as confidentiality and privacy [16, 17], personal liability, lack of active participation, time consumption [18-20], lack of trust, distraction [21], and workplace acceptance and support [22]. Despite these barriers, increasing social media use in the medical field offers several potential benefits. It can enhance collaboration and knowledge sharing among professionals, support continuing medical education, and improve patient access to reliable health information and support communities. However, these benefits must be balanced with concerns about privacy, security, and maintaining appropriate professional boundaries.

Since the 2014 survey [5], social media has continued to expand and become entrenched as a medium of routine communication. Therefore, a re-examination of use and attitudes among doctors on social media is critical to informing protective, adaptive, and productive policy in this area. This study aimed to examine the changes in patterns of usage and attitudes towards online behavior and social media use by Australian doctors compared to the previous survey in 2014.

2. Method and Materials

2.1. Participants

We selected a random sample of 9,000 Australian medical practitioners who had email addresses on the Australasian Medical Publishing Company (AMPCo) database. Of practitioners who were contacted, 8,358 did not initiate the survey and 77 did not complete it, meaning that our final sample was 565 (response rate = 6.3%). Participant characteristics are displayed in Table 1.

2.2. Measures

The survey questionnaire contained 47 multiple choice questions and repeated the previously used tool [5]. For most multiple choice questions, participants selected a response of "*yes*", "*no*", or "*unsure*" (e.g., *Does your primary place of practice have a social media use policy?*), or a 5-point Likert scale (e.g., *How many work hours do you use the above social media per day?*; 1 = "*never*", 5 = "*> 6 hours*"). Questions were adjusted to reflect changes in popularity of social media platforms and to include a more in-depth analysis of novel online technologies. The survey covered five areas of patient-doctor online interaction: current participant usage, general online behavior, doctors' personal information online, patients' information online, and appropriate patient-doctor online interaction. Reporting followed the CHERRIES guideline [23]. The study was approved by the University of Sydney Human Research Ethics Committee (Project No. 2019/090).

2.3. Procedure

All participants were sent an invitation email including a link to an online survey and a participant information sheet explaining the rationale for the study. A repeat email was sent to non-responders 1 week later. Data was collected for two weeks during October to November 2019.

Table 1. Participant demographics from our 2014 and 2019 sample, including age, gender, location of practice, professional role, practice type, and years since graduation.

Demographics	*N* (%) 2019	*N* (%) 2014	*p*
Current age (in years)			.43
Less than 25	4 (0.7)	2 (1.1)	
25-35	109 (19.2)	43 (23.0)	
36-45	115 (20.2)	40 (21.4)	
46-55	115 (20.2)	45 (24.1)	
56-65	102 (17.9)	29 (15.5)	
66-75	40 (7.0)	11 (5.9)	
Greater than 75	17 (3.0)	5 (2.7)	
Missing	67 (11.8)	12 (6.4)	
Gender			.09
Female	238 (41.8)	80 (42.8)	
Male	259 (45.5)	95 (50.8)	
Other	5 (0.9)	0 (0.0)	
Missing	67 (11.8)	12 (6.4)	
Rural or metropolitan			.01 *
Rural	126 (22.1)	58 (31.0)	
Metropolitan	376 (66.1)	117 (62.6)	
Missing	67 (11.8)	12 (6.4)	
Professional role			.53
Junior medical officer	41 (7.2)	17 (9.0)	
Doctors undertaking specialty training	99 (17.4)	36 (19.2)	
Specialist physicians	208 (36.6)	72 (38.5)	
General practitioners	140 (24.6)	46 (24.6)	
Not presently practicing or retired	9 (1.6)	3 (1.6)	
Other	5 (0.9)	1 (0.5)	
Missing	67 (11.8)	12 (6.4)	
Private or public practice			.21
Private only	208 (36.6)	65 (34.8)	
Public only	178 (31.3)	71 (38.0)	
Both public and private	110 (19.3)	37 (19.8)	
Not applicable	6 (1.1)	2 (1.1)	
Missing	67 (11.8)	12 (6.4)	
Years since graduation			.12
Less than 10	127 (22.3)	48 (25.7)	
10-19	111 (19.5)	39 (20.9)	
20-29	110 (19.3)	37 (19.8)	
30-39	84 (14.8)	37 (19.8)	
40-49	51 (9.0)	9 (4.8)	
Greater than 50	19 (3.3)	5 (2.7)	
Missing	67 (11.8)	12 (6.4)	

2.4. Analysis

A chi-square analysis was used to compare proportional responses across our 2014 and 2019 samples, and means were compared using *t* tests. Only completed questions were included in the analysis.

3. Results

3.1. Participant characteristics

Participants were drawn from all states and territories of Australia and were representative of a broad range of specialties. The demographics of the participants were largely similar to the overall Australian medical workforce [24], but were less likely to work in a rural location compared to the 2014 survey (22% vs 31%: $p < .05$; see Table 1).

3.2. Social media use

Most participants used social media at least once a week whilst less than a fifth did not use social media websites at all (18.6%). This reflects a small increase in social media use compared to our 2014 sample, where 1 in 4 participants did not use any social media ($p = .04$). The most used platform was Facebook (68.5%), analogous to our 2014 sample (59.9%, $p = .03$). Further, women were more likely to use Facebook than men (73.8% vs 58.7%, $p < .01$).

Most participants (81.5%) used social media in non-work hours, and of those, 23.6% used social media more than 1 hour per day. This indicated that the quantity of use in non-work hours appears to have increased, with only 16.3% of participants using it for more than 1 hour per day in 2014 ($p = .05$).

Almost half of the participants (47.5%) used social media in work hours, representing an increase since the last study (38.0%, $p = .02$). Only a small proportion of our current sample (3.0%) reported using social media at work for more than 1 hour per day, which was comparable to the 2014 sample (4.2%, $p = .51$).

3.3. Attitudes toward online patient-doctor communication

Conflicting attitudes toward the use of electronic media with patients were observed. Although 71.2% of participants agreed it might be appropriate for a doctor to interact with their patients via email, only 33.9% said they had done so, indicating no significant change from 2014. In contrast, only 3.0% of respondents had used social media to communicate with their patients and only 9.9% believed it would be appropriate to do so.

There was an increase in participants having an online presence for their practice, jumping from 68.9% to 82.2% ($p < .01$). Despite the wide availability of online resources, less than half of the participants could offer their patients electronic forms of information (42.5%), indicating a decrease from 2014 (48.1%, $p = .03$). Additionally, there appears to be a shortfall between what is offered and what is wanted, with many participants having had patients inquire about online communication as a preference (64.5%).

Despite low rates of online communication, 71.9% of participants had discussed online information sources with patients (such as websites about related to a patient's illness), 50.2% had discussed eHealth interventions, and 43.6% had discussed social media usage (such as support groups) with their patients. The findings for discussion of online information sources ($p = .57$) and social media usage ($p = .32$) were stable from 2014, whilst the previous survey did not investigate discussion of eHealth interventions. In contrast, less than half (39.4%) had discussed the negative impacts of internet usage (such as cyber-bullying, internet addiction). This was not assessed in the previous survey. Analogous to our previous study, general practitioners were more likely than specialist physicians to speak with their patients about Internet usage and online resources (83.6% vs 68.7%, $p < .01$).

3.4. Online patient-doctor interaction

Most doctors (67.8%) indicated they would not be comfortable interacting with a patient who had accessed their personal information online prior to the consultation, compared to 60.8% ($p = .08$) in 2014. However, although numbers remain low, more doctors reported that patients had accessed information about them found on social media (4.8%) compared to 2014 (1.7%, $p = .06$).

Marginally more doctors were receiving friend requests from patients, although these findings were not statistically significant. One in four doctors (26.1%) had received a friend request from a patient they only knew and interacted with professionally, increasing from one in five in 2014 (19.4%, $p = .08$). There was little change in how doctors would respond to a friend request from a patient (Table 2). Most commonly they would decline the request and do nothing more (39.2%) with only 1.4% reporting they would accept the friend request.

Table 2. Participants' response to friend request from a patient across our 2014 and 2019 samples.

How would you respond to a patient who sent you a friend request on Facebook?	2019 *N* (%)	2014 *N* (%)	*p < .05 **
Accept the request	7 (1.2)	4 (2.1)	
Decline the request and do nothing more	197 (34.6)	54 (28.9)	
Decline the request and send a private message explaining why	44 (7.7)	18 (9.6)	
Decline the request and discuss at the next consultation	97 (17.0)	44 (23.5)	
Do nothing	157 (27.6)	35 (18.7)	
Missing	67 (11.8)	32 (17.1)	

3.5. Protection of personal information online

Despite wide coverage of online privacy violations, there was little improvement in doctors' ability to protect their information online. Most doctors were aware of the results that appear when they searched on the Internet for their full name (69.3%), and the majority (67.5%) had adjusted privacy settings to limit access to their information. Concerningly, this prevalence had not improved in the last five years. However, participants in this study were more likely to have taken measures to control their online profile (57.3%) than in 2014 (35.9%, $p < .05$). Female participants remained more likely to have adjusted their privacy settings than men (79.4% vs 56.4%, $p < .01$), analogous to the 2014 findings (47.5% vs 26.3%, $p < .05$). Almost all respondents under the age of 35 had adjusted their settings (97.3%), compared to a minority of respondents aged over 65 (22.8%, $p < .01$). Indeed in 2014, no participant aged over 65 had adjusted their privacy settings.

3.6. Legal and ethical concerns online

Most surveyed doctors were not aware of social media guidelines. Less than half of all practices had a social media policy that participants were aware of (44.8%). While there was no difference by age or gender, participants who only worked in private practice were less likely to be aware of a social media policy (28.3%, $p < .01$). Additionally, most participants were concerned about legal issues around interacting with patients online (76.5%), with women (81.1%) far more likely to be concerned than men (71.4%, $p < .01$). This was not examined in 2014. Further, most participants remained hesitant to immerse themselves more fully in social media and online communications (70.8% vs 65.8%, $p = .85$).

The diverse responses to ethically challenging scenarios remained consistent between the surveys (Table 3). A notable exception was the significant increase in doctors who have conducted Internet searches about their patients. One in four participants had searched a patient to find out more information about them, compared to only one in six in the previous study ($p < .05$). This did not differ demographically except in that female doctors were much less likely to look up publicly available information about their patients both in routine (7.1% vs 19.3%, $p < .01$) and emergency circumstances (24.8% vs 37.1%, $p < .01$).

4. Discussion

Our results indicate that Australian doctors remain cautious about integrating online communication and social media into their clinical practice, despite its widespread use in everyday life. Concerns about potential vulnerabilities persist, with many doctors feeling uncertain about how to protect their personal information online and navigate ethically complex situations. While technology has evolved, it appears that doctors' approaches to incorporating these tools into their practice have remained largely unchanged.

The unchanged rates of online communication between patients and doctors are even more striking in our current study than when it was observed in 2014. Few client-facing industries could declare a less than 50% rate of email communication with their customers [25], and yet doctors have remained largely analogue over the last five years. This hesitation to change may be the result of two forces: the intimacy of the patient-doctor relationship, and trust in the privacy of non-digital media. In contrast, discussion of online resources for patients, including novel eHealth interventions, has remained robust since the last study - but has not grown significantly despite the expansion of offerings. Paradoxically, less than half of participant doctors have ever discussed the negative aspects of social media, despite their own personal concerns about the platform.

Table 3. Participant responses to ethical dilemma questions across our 2014 and 2019 samples.

Dilemma	*2019* *N* (%)	*2014* *N* (%)	*p*
Do doctors have a duty to rebut inappropriate or inaccurate health information posted online? e.g., a blogger saying that sex without a condom is safe.			.01 *
Yes	144 (25.3)	69 (37.0)	
No	160 (28.1)	53 (28.3)	
Unsure	218 (38.3)	59 (31.6)	
Missing	47 (8.3)	6 (3.2)	
Have you at any time searched for publicly available online information about a patient? e.g., “Googled” a patient to find more information about them.			.01 *
Yes	127 (22.3)	29 (15.5)	
No	372 (65.4)	150 (80.2)	
Unsure	12 (2.1)	1 (0.5)	
Missing	58 (10.2)	7 (3.7)	
Is it appropriate for doctors to look up publicly available online information about a patient in an emergency? e.g., searching a patient’s Facebook page for information following a suicide attempt.			.01 *
Yes	158 (27.8)	68 (37.8)	
No	124 (21.8)	48 (25.7)	
Unsure	229 (40.2)	64 (34.2)	
Missing	58 (10.2)	7 (3.7)	
Is it appropriate for doctors to look up publicly available online information about a patient as part of regular clinical practice? e.g., monitoring a pro-anorexia forum for posts made by one of your patients.			.03 *
Yes	68 (12)	30 (16.0)	
No	220 (38.7)	77 (41.2)	
Unsure	223 (39.2)	73 (39.0)	
Missing	58 (10.2)	7 (3.7)	

While there has been an increase in social media use, this has been from extremely low base rates. The precarious place of social media in patient-doctor communication is further reinforced by an observed, though non-significant increase, in patient-initiated friend requests to participants, which rose from one in five to one in four. This remains much lower than the rate of over one-third quoted in another study which had a younger cohort of participants [26]. While an increased number of doctors have searched at some stage for information about a patient 22% vs 15%, $p < .01$), fewer believe that it is an appropriate course of action.

Interestingly, the response to addressing friend requests has shifted to a less confrontational approach, favoring to decline the request and do nothing more. This change may reflect a more practiced understanding of the platform, where any form of communication may be seen as inappropriate and therefore avoidance is the safest policy.

4.1. Female doctors more cautious online

Doctors' responses exhibited a consistent pattern of female participants acting more cautiously online. They demonstrated more concerns about legal issues online and had more frequently taken measures to protect their privacy online. This caution was also reflected in their behavior – with only a very small number deeming it appropriate to look up publicly available information about their patients in any circumstance.

4.2. Awareness of social media policies

The medical workforce continues to express concerns about social media, particularly regarding legal implications and privacy issues. These concerns have been consistent with recent findings both domestically and internationally [18]. Publicized incidents of personal information breaches [27] have likely contributed to these fears..

It appears that the reach and effectiveness of social media policies and guidelines may be limited, as less than half of the participants reported awareness of such policies in their workplaces. This low awareness could be attributed to inadequate policy implementation or dissemination. As a result, doctors may still face challenges in managing their online presence and safeguarding their professional and personal information.

4.3. Limitations

Our data collection predated Covid-19 and the myriad effects that it has had on medicine, the community [28], and social media use [29]. Nonetheless, our study's picture of a profession still struggling to engage with new forms of communication remains of concern. Second, the modest response rate of 6.6% is a decrease from the last study. It may reflect improved email inbox filtration of unsolicited surveys or survey fatigue. More importantly, the completion rate, once opened, was 88% - indicating significant participant engagement once the email outreach was received [30].

Third, as with the last study, we only invited doctors via email, which will have neglected potential participants who do not have an email address (35.2% of the AMPCo database do not have recorded email addresses). It is also probable that we elicited responses from doctors who are more interested, and thus more comfortable and fluent in social media, potentially biasing our sample. So, the rates of concern observed in this survey may underestimate those to be found among Australian doctors.

4.4. Conclusion

Our study is an important follow-up of online and social media behavior of doctors. It has revealed little change in the quality and comfort of patient-doctor communication online. Despite widely available research and targeted social media guidelines, Australian doctors remain cautious and are frequently unaware of guidelines or support. These findings suggest a need to improve awareness of resources, to reduce vulnerability and improve confidence for doctors when interacting with patients online, and continued efforts to train medical students in all aspects of eHealth. Without change, doctors in Australia may continue to ignore a means of communication widely used by their patients, thus potentially marginalizing their evidence-based message in the competition with other internet-based resources.

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