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Title page

"Doctors can't be doctors all of the time": a qualitative study of how general practitioners and medical students negotiate public-professional and private-personal realms using social media

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Abstract

Objective- The objective of this study was to explore the experiences and perspectives of general practitioners and medical students use of and behaviour on social media and, specifically, to understand how they negotiate threats to professional and personal life on social media.

Design- A two phase qualitative design was employed, consisting of semi-structured interviews and follow-up vignettes, where participants were asked to respond to vignettes that involved unprofessional behaviour to varying degrees. Data were analysed using template analysis.

Setting and Participants- Participants were general practitioner tutors and third year medical students who had just completed placement on the University of Limerick longitudinal integrated clerkship. Five students and three general practitioners affiliated with a medical school were invited to participate in one-to-one interviews.

Results – three overarching themes, each containing subthemes were reported. 'The world has got smaller' shows how platforms provide useful resources and illustrates the potential risks of social media. 'Online persona' considers changing relationships to which advances in social media have contributed. 'Towards standards and safety' conveys how to protect patients, doctors and the profession.

Conclusion - Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their right to a private life in which ineffective use of social media does not negatively affect career prospects.

Strengths and Weaknesses of the Study

This study has provided new insights into boundary setting and safe negotiation on social media platforms for medical students and physicians

The analysis addresses a knowledge gap rationalising the differences in attitude between students and tutors to online professional behaviour

The purposive sampling method facilitated a balance of students and GP-tutors, European and North American students and male and female participants

The study was limited to one cohort of medical students in a single medical school

Introduction

Medical professional bodies in Europe and the USA have issued position statements and guidelines for their members advising on how best to utilise social media [1, 2]]. The term social media, itself, is difficult to define but a commonly accepted description as that of a set of online applications, including blogging and networking sites, that facilitate users to express themselves and interact with each other [3]. Social media has become an effective communication tool for public health [4], helping patients with chronic illness to self-care [5], and more recently, as a means get information to populations in 'real-time' during the COVID-19 pandemic [6].

While social media can improve communication in some instances, the associated environment is fraught with the danger of suboptimal communication [7]. A comprehensive review warned that, for health professionals and patients, social media can negatively impact on mental health, confidentiality, privacy and quality of information available [8]. The concept of 'online professionalism', rooted in the traditional values of medicine, has evolved in the past decade in response to the challenges of the constantly changing social media sphere [9].

Physicians being disciplined by regulatory bodies for unprofessional online behaviour [10] is a cause for concern for students, physicians and medical educators. An international study of doctors and medical students reported widespread use of social media, and almost one fifth of students admitted to sharing clinical images inappropriately [11]. Similarly, surveys of medical students in Australia [12], England [13] and the USA [14] reported that inappropriate and unprofessional social media posting was common. This raises the question of whether there is an effect for age in the use of social media and whether younger medical professionals and those currently in training need to be educated in the ethical and professional implications of using social media both in their clinical practice and in their personal lives and particularly where these two areas may overlap. Ethical concerns also concern the public-professional and private-personal spheres.

Researchers examining the impact of social media on medical professionals called for an intergenerational dialogue [15], as physicians and students may be unsure of the full medical, professional, and personal reputational consequences of the new social media age [16, 17]. While a small number of qualitative studies have been conducted with physicians [18] and medical students [19], there are few qualitative studies examining the views of medical students and those of their clinical supervisors on this topic. This study aimed to address the knowledge gap by investigating the understanding and attitudes of general practitioners (GPs) and medical students to their use of and behaviour on social media.

Methodology

Study design

The study adhered to the COREQ [Consolidated criteria for reporting qualitative research] principles for reporting qualitative research (supplementary material 1) [20]. Ethical approval was granted by the University of Limerick Education and Health Science Faculty Ethics Committee [2017_05_17_EHS].

Each participant was contacted twice. The first step was an in-depth, semi-structured interview that was based on a topic guide designed by the research team. The second was a follow-up phone call, during which, the participant was asked to respond to three separate vignettes which required them to consider the ethical dilemmas and professional practice challenges of using social media personally and professionally. The vignettes were chosen as a complementary method because of their ability to yield rich data [21] and to offer new insights [22].

Setting and Participants

Participants were GP tutors and third year medical students who had just completed placement on the University of Limerick longitudinal integrated clerkship [23]. Purposive, non-probabilistic, sampling was used to ensure that a balance was achieved between students from Europe and North America and that both male and females were selected to be as representative as possible of the student population. Participants were recruited by an email. The sample size was based on the principle of data saturation, whereby a minimum number of interviews was selected for a first round of interviews for initial analysis and a minimum number also for subsequent interviews that would be checked for no new themes emerging; the stopping criterion [24]. Based on previous qualitative research with medical students [25], we set the initial minimum number at five and specified a minimum of three subsequent interviews. The characteristics of the participants are outlined in table 1.

Public and patient involvement

No patients were involved in the study but the research question was derived from classroom discussions with the medical students and interactions with GP-tutors, which reflected that this research area is under-studied. Participants were not involved in the design of the study, recruitment or conduct of the study. We plan to disseminate the study report as a brief and a full publication to all the study participants.

{Insert table 1 here}

Data Collection instruments

The interview guide was developed by an interdisciplinary team, and consisted of open and closed ended questions. Vignettes were developed by two of the research team with the purpose of exploring students' and clinicians' responses to examples of unprofessional behaviour online by healthcare

workers (supplementary material 2). They were piloted at an academic workshop for health care educators.

Interviews and vignettes

Interviews were conducted by a trained female researcher (MM), who would have known some of the participants and lasted between 15 and 30 minutes. Participants were subsequently invited to a brief follow-up and a time at least one week later was arranged. These were conducted by telephone and were digitally recorded, with explicit consent of those participating. Participants were shown or read short vignettes about use of social media and their opinion were elicited.

Data analysis

The methodology utilised was template analysis. A coding template based on representative parts of the data is developed, and, subsequently, is revised and refined [26]. It facilitates the use of a priori themes which can later be modified or excluded as the data analysis evolves, as the researchers read and re-read the data. The identification of templates is thus iterative in nature - some are established initially as more important and then, after thorough reading and re-reading of the data transcripts, may be seen as less important or more important. This helps to compare perspectives between different categories of participants; in this case, GPs and medical students [27]. It is a practical method that is well suited to a team involving multiple coders as it gives the freedom to the team to collaborate on the direction and content of the coding [28]. The process involved over six meetings of the coders.

Coders discussed personal experiences with social media, professional boundaries, and attitudes towards the scenarios in the vignettes. This “active-acknowledgement”, a recognised reflexivity technique for overcoming researcher bias in qualitative studies, was maintained throughout the analysis [29].

Findings

The analysis produced three overarching themes, each with subthemes that were often interconnected and, in some cases, had overlapping ideas.

1. The world has got smaller

This theme refers to the practical, day-to-day applications of social media for medical students and GPs. It has been divided into two subthemes: 'staying connected' and 'educational tool'.

1.1 Staying connected

Maintaining friendships and staying in touch with others was the primary stated use of social media platforms. A North American student said how helpful Facebook was in keeping touch with family throughout the world and with a network of friends from a previous course. However, one student felt that the speed and ease of access may come at the cost of maintaining meaningful relationships.

"perhaps they are superficial relationships, but you know I feel like if I didn't have 'Facebook', particularly I would absolutely lose contact with these people." [student]

There appeared to be an awareness of the link between social media misuse and being compromised when interviewing for jobs or being publicly castigated for holding the 'wrong' view on a contentious topic.

"I am very conscious about putting up things like my date of birth, things about politics… of not giving away too much about myself." [student]

In this quote there is both the appreciation of confidential personal details such as "date of birth" but also the sense that there are areas which are personal and private, such as "politics" and "giving away too much about myself".

1.2 'Educational tool'

This subtheme describes how, on one hand, social media platforms have significantly enhanced learning but, on the other hand, must be handled with care. For students, the educational component is closely linked to the connectedness described in the previous subtheme. Concerns about social media distracting from learning and in general were evident:

"you can spend hours and hours just scrolling going from Twitter to Facebook to LinkedIn." [general practitioner]

"99% of the time it is just for killing time." [student]

Some experts post pictures and scenarios and invite students to suggest differential diagnoses, often giving the correct answer and an explanation at a later point. While this was appreciated by one student in the interview, in the follow-up vignette discussion he then questioned the professional ethics of posting patient information in a publicly accessible forum, and the concepts of consent and

confidentiality were raised. When asked about professional concerns relating to the first vignette [on online sharing of clinical educational material] all participants acknowledged the importance of confidentiality.

"I think you need to be careful about what you post. Personally, for myself, as a rule of thumb, I don't think you should post anything about clinical… a clinical scenario or anything because that could get you into trouble." [student]

Most noticeable in this last statement is the tension between a very useful medical pedagogical tool, which may benefit medical students, and the ethicality of referring to patient case studies.

2. Online persona

This theme analyses the process whereby learners at all stages of the medical continuum negotiate an online image and attempt to balance personal and professional dimensions. There are three subthemes: Crafting an image, societal expectations and boundaries are blurring.

2.1 Crafting an image

Participants agreed that care had to be taken with how a medical student/clinician presents themselves online. Students and GPs were aware that various platforms serve very different purposes. Both groups indicated a degree of embarrassment with self-promotion on social media. It appears that all participants were conscious of how they would be perceived by the public. Several felt it was important to be selective with what gets posted to craft a positive image:

"you can hold an image of yourself… put up the photos where you look good are having a wonderful time…. I suppose also, some people open their hearts a bit too much… it probably doesn't cast them in the best light even if that is not their intention." [student]

Another student explained this concept further, detailing how he restricted what he posted to paint an almost superhuman version of himself.

"the image you are trying to maintain could be what you identify with or what you want to identify with, but you are not really that, so kind of detachment is potentially harmful particularly with young people…. There is a culture of social media that is centred around vanity and around what you want to identify with versus what you actually identify with." [student]

This quote strongly points to the tensions and pressures in emotional self-regulation involved in anyone using such impression management strategies. It also highlights the danger, when using social

media, of a cognitive dissonance between the image medical students and doctors wish to project and the extent to which this image accurately reflects who they are.

2.2 Societal expectations

This theme considers how they think society might view them when using social media. An experienced GP participant felt strongly that society expects something more from medical students compared to other students as they were "future doctors". This question as to whether society should expect a higher standard for doctors permeated most of the interviews.

"maybe somebody looking on would say… 'I don't care if my plumber has 20 pints at the weekend… or I see them on 'Facebook' running… with no clothes on – but I don't want to see a GP on Monday morning who has been doing that'." [general practitioner]

The fear of reputation damaged was balanced with the realisation that we cannot all be perfect all the time. One student described this succinctly but still advised the utmost caution when using social media:

"We are only human. I mean, God forbid, Watson and Crick who discovered DNA, I am sure they were mad for their lush [alcohol] every once in a while, but who cares?" [student]

Other students took an opposing view and expressed in both interview and follow-up vignette the need to maintain professional conduct on and off duty.

"They have a reputation to maintain and here they are not representing themselves in a professional manner." [student]

In some instances, there was dissonance between the view expressed by a participant in the interview and that of the same participant in the follow-up vignettes. One student, when asked about societal expectations, cited the example of a picture shared on a social media platform of a doctor smoking a cigarette, saying that it made no sense for that doctor then to be telling patients not to smoke. When asked to comment on the vignette where a patient expressed concern about doctors who were potentially going to operate on her and had appeared drunk on a social media platform, she responded:

"I would tell her that doctors can't be doctors all of the time" [student]

2.3 Boundaries are blurring

This subtheme refers to the changing dynamic between doctors and patients to which social media is contributing. GP participants agreed that it was not unusual to have friends who might be taken on as patients or to have social interaction in the community with existing patients. However, the introduction of social media has the potential to destroy privacy and to blur the boundary between personal and professional.

Friend requests on 'Facebook' were cited by many students an GPs as a potential source of compromise with all viewing it as an inappropriate relationship, fraught with possibilities of doctors' personal information being inappropriately viewed as well as the potential for medical advice being requested online. The risk to patient safety brought about by casual contact and giving of advice in a non-clinical and more relaxed social media environment was pointed out. One GP emphasised maintaining a division between personal and professional life:

"It is about keeping things separate. Your personal life and your professional life." [general practitioner]

All of this points, once again, to the need for individual doctors to decide where they are going to draw their boundary lines with their patients online. This ties into the final theme of what exactly is proper use of social media by doctors.

3 Towards standards and safety

This final theme illustrates the current uncertainty regarding what it means to be a medical professional on social media. There are two subthemes – clarifying the standard and safe navigation.

3.1 Clarifying the standard

While the data shows that there is awareness among all participants of some ethical dimensions and legal ramifications of poor conduct on social media, there was no clear consensus on what is acceptable. One GP, while aware of the limitations of his own experience with social media, expressed concern for medical students:

"people who have spent all their waking hours for the last ten years stuck in a room swotting, most of them don't have life experience and are not worldly-wise and therefore are very innocent… they are

just not aware of the huge implications this can have on their future so I think that needs to be spelled out very clearly and explicitly." [general practitioner]

GPs and students appeared to disagree on whether clinical experiences could be shared online for teaching and reflective purposes. The vignettes magnified this uncertainty and were useful in presenting examples of where such social media dilemmas might occur. Most of the GPs believed that there was insufficient guidance provided for them and for students. They agreed that a clear set of guidelines was necessary that would uphold good professional conduct while protecting individuals who, in their leisure time, were trying to unwind:

"It is a stressful enough job. You would hate to think that people would be told that you can never let your hair down, you can never do this or that. I think there has to be a balance somewhere." [general practitioner]

This quote underlines the imperative of educating future and current physicians in the use of social media to acheive a private social life.

3.2 Safe Navigation

This final subtheme connects the perceptions found throughout the data on how students and GPs might successfully and safely navigate social media platforms, accessing education and connecting with others, while at the same time keeping themselves plus their current and future patients safe. GPs were very clear on what type of information should not be divulged on social media platforms:

"Any info. that you think could harm you, your family or your patients." [general practitioner]

The follow-up vignettes revealed that for three of the students, there was a high level of awareness of risks with sharing information on SMPs. They recognised the potential for litigation and damaged career opportunities as consequences of inappropriate use of SMPs. However, a fourth student, did not appear to have this level of awareness and was actively engaging in broadcasting her own clinical experiences on SMPs seemingly without awareness of the dangers:

"I have a [You Tube] channel that I just started, and I am just uploading some videos about my life… about medicine"

[Interviewer] Do you think there are any risks with that?

"no, not really." [student]

There was no evidence among participants of any level of participation in formal education on engaging social media, and for most, awareness seemed to come from life experience. One student told how lessons learned about life as a younger girl influenced her behaviour on SMPs:

" My dad used to always give us lectures about pictures which I totally understand so I do have certain settings on 'Facebook' which only allows… not even all my friends to see my photos" [student]

There was a notable lack of awareness of the existence of guidelines among both groups of participants. All agreed that, in general, social media is a positive thing, but most urged caution and showed awareness of risk.

"I think overall, social media is great but just be careful with it. That is the long and the short of it." [general practitioner]

Discussion

The analysis has provided new insights into the research question in terms of investigating the understanding and attitudes of GPs and medical students to use of and behaviour on social media. While all were agreed that it provides useful educational and networking benefits to the profession, most expressed unease about boundary setting and staying safe on these platforms. GPs and medical students appeared to agree that there was a line between professional and personal realms that needed to be maintained, but for medical students in particular, defining where that boundary lies was difficult to conclude. The students interviewed had all completed an 18-week placement in general practice and it is possible that this placement influenced student attitudes and research has reported that medical students' professionalism increases with more clinical exposure [30]. Participants' awareness of the potential effects of social media mishaps on their future career appears to be well founded, with reports of post graduate training directors checking prospective candidates' social media profiles prior to interview [31]. Evidence suggests that patients' perceptions of their physician's professionalism can be influenced by the content of their social media accounts [32, 33].

The scenario that caused the most disagreement among participants related to a video of doctors behaving unprofessionally during their time off, with some defending them and others saying it was unacceptable to behave in a certain way at any time. The statement in our study that "doctors can't be doctors all of the time" is similar to a previously reported finding [34]. An important point in our study is the discordance within participants between what they think and what they say, as illustrated

by the follow up interview seeking their reactions to scenarios, and similar findings have been reported [35]. Establishing boundaries in a social media age is difficult for all citizens but especially for doctors as they expected to practise to the highest level. The quote regarding Crick and Watson was very apposite in this respect.

The theme of 'crafting an image' refers to the efforts of medical students and physicians to portray themselves favourably on social media. This phenomenon has been described as an online "identity crisis" for medical professionals [36]. Researchers have warned of the problem of conflating "self-expression, self-promotion and self-communication" [37]. While concepts such as wellness and efficiency are described in medical literature [38], the concern regarding projecting an unrealistic image in a world where privacy is difficult to control, which was raised by participants in this study, has not been addressed previously. Research has reported that taking time away from social media can decrease stress levels [39]. Such a finding may in part be related to the pressure described in our study of maintaining an 'online persona'.

The concept of dual relationships, whereby professionals and the public interact formally at times and informally at other times is brought to a greater level of acuity by social media where 'context collapses'- a point emphasised in our data [40]. Formal education at medical school in digital professional identity formation in medical school curricula is thus important as is subsequent professional accreditation [41]. Interventions aimed at promoting professionalism on social media are acceptable to students [42] and most students made and maintained positive changes to their social media use [43]. Some of the participants in our study were aware of which social media platforms to use for various purposes and how to use privacy settings to ensure safety. Education on how to apply this knowledge has been successful in medical schools elsewhere [44]. Several of the study participants called for medical council guidance on social media use but this in fact is already available and reflects research findings in Britain pointing to the need to publicise these guidelines effectively [45, 46]. This may indicate the need for regular communication between accreditation bodies and both students and doctors as social media platforms change so rapidly.

Strengths and weaknesses

The "two stage" nature of the study, involving in depth interviews followed up by a phone call soliciting views on hypothetical scenarios, was a particular strength as it allowed participants to reflect on their views. A useful cross-cultural element was the participation of GPs and medical students from Ireland and North America. A weakness of the study was its location in a single medical school in Ireland.

Implications for further research and practice

Research is warranted to identify how best to teach safe practices for engaging with social media. It is also clear that medical school curricula must address how students need to use social media professionally and ethically from the earliest stages of their career. This should involve clear and dynamic guidelines for medical students and GPs to understand and implement ethical social media use in the medical profession due to the rapidly changing speed and scope of social media.

Conclusion

Students and GPs alike view social media as a positive resource for the medical profession. Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their right to a private life in which ineffective use of social media does not negatively affect career prospects.

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Contributors

MM (MB BCh BAO) was involved in the study design, data collection and analysis and helped to write the first draft; VN (PhD) was involved in the data analysis and write up, ES (PhD) was involved in study design, oversight, analysis and write-up; JMD (PhD) was involved in the data analysis and write up; ROC (MB BCh BAO, MMedSc) was involved in data analysis, write-up; JOD (MA) was involved in study design, data analysis and write-up; AOR (MB BCh BAO, MMedSc) was involved in all stages of the project. Each author contributed to all drafts of the paper, and read and approved the final manuscript.

Competing interests

We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

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Table 1: Participant Characteristics

GPs/ final year Medical Student	Gender[M/F]	Age Category[20-30],[30-40],[40+]	Style of Interview[face to face, phone, Skype]
Interview 1: GP	F	30-40	Phone
Interview 2: GP	M	30-40	Phone
Interview 3: Medical Student	M	20-30	Skype
Interview 4: Medical Student	M	20-30	Face-to-face
Interview 5: Medical Student	M	20-30	Face-to-face
Interview 6: Medical student	F	30-40	Face-to-face
Interview 7: GP	M	40+	Face-to-face
Interview 8: Medical student	F	20-30	Fact-to-face

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	5
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	13
Occupation	3	What was their occupation at the time of the study?	13
Gender	4	Was the researcher male or female?	5
Experience and training	5	What experience or training did the researcher have?	5
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	n/a
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	5
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	4
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	4
Sample size	12	How many participants were in the study?	4-5
Non-participation	13	How many people refused to participate or dropped out? Reasons?	n/a
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	4-5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	n/a
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	4
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	4
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	4
Field notes	20	Were field notes made during and/or after the inter view or focus group?	n/a
Duration	21	What was the duration of the inter views or focus group?	4
Data saturation	22	Was data saturation discussed?	4-5
Transcripts returned	23	Were transcripts returned to participants for comment and/or	n/a

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	5
Description of the coding tree	25	Did authors provide a description of the coding tree?	n/a
Derivation of themes	26	Were themes identified in advance or derived from the data?	5
Software	27	What software, if applicable, was used to manage the data?	n/a
Participant checking	28	Did participants provide feedback on the findings?	no
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	6-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	6-11
Clarity of major themes	31	Were major themes clearly presented in the findings?	6-11
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	6-11

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Interview Guide

Interview Guide
1. Tell me about your experience of social media.
2. Do you share personal information online such as pictures, location and employment status? If yes/no, why?
3. Do you use social media for personal or professional use?
4. What do you feel are the benefits of using social media apps?
5. What do you feel are the risks associated with the use of social media?
6. As a clinician/ future clinician how would you feel about patients contacting you/following you on social media?

Vignettes

Follow up interviews: Vignettes
1. "Michelle Kelly is a student nurse. She recently posted a photo to twitter showing the Accident and Emergency room of the hospital in which she is training on a Saturday night. The caption for the photograph was "The crazies are really out tonight….". There were several patients in the photograph, although only one is readily identifiable. You see from her feed that she is "friends" with a number of former patients on facebook. In a series of posts with one former patient, John, they discuss the upsetting nature of the injuries received by an unidentified patient, with whom John shared a room". • What ethical and professional issues arise here? • Which means of social media are suitable for sharing clinical experiences? • What types of information are unsuitable for social media?
2. "As a senior house officer in a busy surgical outpatients clinic, you consult with a young lady who is on the laparoscopy waiting list. She appears disconcerted and tells you about a recent you tube video link that was shared with her by a friend.

The video involved a group of young men who appeared drunk and were taking turns jumping into a swimming pool after drinking a pint of alcohol. She recognised one of them as the surgical registrar who booked her for her upcoming laparoscopy. She has since found out that the others were also junior doctors in the hospital. She tells you that, although she has no problem with clinicians enjoying themselves, she would not be comfortable with such unprofessional type people having such involvement in her health".

- How would you approach this problem with the patient?
- What ethical and professional issues arise here?

3. "While on placement in final year of physiotherapy, a friend sends you a screen shot of a blog that one of your classmates is running. The classmate is a very hard working student and has always shared resources with you. The blog is a day by day account of your classmate's clinical encounters, highlighting learning points and tips for the final year examination. The screenshot is of a paragraph outlining in detail the history of a road traffic accident that led to a client presenting to her. The client's name is not given but the gender, age, locality and date of accident is documented. The screenshot is followed by this comment from your friend: "no prizes for guessing who this guy is!"

- Would you act on this information? If so, how?
- What ethical and legal dilemmas arise while sharing experiences online?

BMJ Open

"Doctors can't be doctors all of the time": a qualitative study of how general practitioners and medical students negotiate public- professional and private-personal realms using social media

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Title page

"Doctors can't be doctors all of the time": a qualitative study of how general practitioners and medical students negotiate public- professional and private-personal realms using social media

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Key words – General Practice, Social media, online professionalism, medical education

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Abstract

Objective- The objective of this study is to explore the experiences and perspectives of general practitioners' and medical students' use of, and behaviour on, social media and to understand how they negotiate threats to professional and personal life on social media.

Design- A two phase qualitative design was employed, consisting of semi-structured interviews and follow-up vignettes, where participants were asked to respond to vignettes that involved varying degrees of unprofessional behaviour. Data were analysed using template analysis.

Setting and Participants- Participants were general practitioner tutors and third year medical students who had just completed placement on the University of Limerick longitudinal integrated clerkship. Five students and three general practitioners affiliated with the medical school were invited to participate in one-to-one interviews.

Results – three overarching themes, each containing subthemes were reported. 'Staying in contact and up to date' outlines how social media platforms provide useful resources and illustrates the potential risks of social media. 'Online persona' considers how social media have contributed to changing the nature of inter-personal relationships. 'Towards standards and safety' raises the matter of how to protect patients, doctors and the medical profession.

Conclusion - Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their private life so that poorly judged use of social media does not negatively affect career prospects and professional efficacy.

Strengths and Weaknesses of the Study

- The sampling method facilitated balance of gender, age and nationality of participants.
- The conceptual lens, communities of learning, situated the data in terms of accepted theory and evidence.
- The use of vignettes provided rich data on participants' experience of social media use and behaviour.
- The study was limited to one cohort of participants in a single medical school.
- The number of participants was relatively small (N=8).

Introduction

Social media is defined as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" [1]. It has become an effective communication tool for public health to convey information to populations in 'real-time' during the COVID-19 pandemic [2]. While social media can improve communication in some instances, the associated environment is fraught with the danger of suboptimal communication [3]. A comprehensive review warned that, for health professionals and patients, social media can negatively impact on mental health, privacy and information quality [4]. The concept of 'online professionalism', rooted in the traditional values of medicine, has evolved in the past decade in response to the challenges of the constantly changing social media sphere [5].

Unprofessional online behaviour resulting in disciplinary action for medical students and doctors is concerning [6]; one international study reported that almost one fifth of the medical students surveyed admitted to sharing clinical images inappropriately [7]. Similarly, surveys of medical students in Australia [8], England [9] and the USA [10] reported that unprofessional social media posting was common. While regulatory guidelines are available, inappropriate behaviour on social media remains problematic [11], with the majority of residents in one study admitting to having posted inappropriate photographs of medical colleagues intoxicated on social media [12]. In this context, the findings of cross-sectional survey of the public are relevant; it reported that inappropriate use of social media by physicians, including images of intoxication, would cause patients to trust them less [13]. Such implications have been highlighted by medical ethicists [14]. The phenomenon is not restricted to doctors – over half of respondents in a survey of registered nurses said that they had witnessed inappropriate online behaviour among colleagues [15]. Furthermore, postgraduate programme directors frequently check the social media profiles of residency applicants for inappropriate behaviour [16].

Recent research surveys of medical students, residents and consultants, reported that almost one third of students had posted inappropriate photographs of themselves on social media; the findings among residents and consultants were significantly lower [17]. This raises the question of whether there is an effect for age in the use of social media; a systematic review examining the impact of social media on medical professionals encouraged intergenerational dialogue [18].

Physicians and students may be unsure of the full medical, professional, and personal reputational consequences of the new social media age [19, 20]. Ethical concerns also include the public-professional and private-personal spheres. Few qualitative studies examining the views of medical students and those of their clinical supervisors on this topic exist. The aim of this study was to explore general practitioners' (GPs) and medical students' perspectives on and experience of social media. Specific objectives were to investigate how students and their GP-tutors utilise social media; what challenges they encounter in keeping boundaries between professional and personal identities and private and public realms; how they negotiate these challenges and conduct themselves professionally when using online platforms.

Methodology

Study design

The study adhered to the COREQ [Consolidated criteria for reporting qualitative research] principles for reporting qualitative research (supplementary material 1) [21]. Ethical approval was granted by the University of Limerick Education and Health Science Faculty Ethics Committee [2017_05_17_EHS]. Participants were contacted by email sent from a research administrator who was not involved in course teaching and assessment, thus ensuring no power dynamic or coercion. This study utilised a hybrid methodology whereby an in-depth, semi-structured interview based on a topic guide designed

by the research team was followed, for some participants, by a second interview structured using short ethical dilemmas on social media described here as vignettes.

Setting and Participants

Participants were GP tutors and third year medical students who had just completed a longitudinal integrated clerkship [22]. Five medical students and three GPs participated in the study. Purposive, non-probabilistic, sampling was used to ensure that a balance was achieved between students from Europe and North America and that both male and females were selected to be as representative as possible of the student population. The characteristics of the participants are outlined in table 1. As judgemental sampling involves the judgement of the researchers based, for example, on their expertise and knowledge of previous research it was decided to base the sample size on a previous qualitative study on medical student mobile phone usage [23]. The interview process worked through the eight participants until no new themes were emerging. This is known as data saturation- the 'stopping criterion' [24] for the data collection being met as those being interviewed are repeating themes mentioned by others or are not suggesting new themes.

{Insert table 1 here}

Public and patient involvement

No patients were involved in the study, but the research question was derived from classroom discussions and interactions with medical students GP-tutors.

Conceptual framework

'Communities of practice' is a popular theory for conceptualising the development of medical professional identity [25], whereby the medical profession is understood both as a "collegial profession and community of practice" [25]. The theory states that successful identity formation depends on a dynamic interplay between members of the medical community at different stages of the medical continuum. To this end social media can supplement but not replace "meaningful contact

with members of the community", which is considered in this framework to be the most important factor in professional identity formation [25].

Data Collection

The interview guide was developed by an interdisciplinary team, and vignettes were developed by two of the research team (ES, AOR) with the purpose of exploring students' and clinicians' responses to examples of unprofessional behaviour online by healthcare workers (supplementary material 2). These vignettes were designed so that doctors and medical students could give ethical and professional perspectives not simply on themselves but also on those with whom they work and will be working in their medical careers. Participants were asked to respond to three separate scenarios which required them to consider the ethical dilemmas and professional practice challenges of using social media personally and professionally. Where the themes explored in the vignettes were addressed by the participants in their initial interview they were not interviewed again with the aid of the vignettes.

Interviews were conducted by a trained female researcher (MM), who would have known some of the participants and lasted between 15 and 30 minutes. These were conducted either by telephone, Skype or in person and were digitally recorded, with the explicit consent of those participating. Where participants were invited to a second interview, if their first interview had not addressed the themes in the vignettes, they were shown or read short vignettes about use of social media and their opinions were elicited.

Data analysis

The methodology utilised was template analysis. A coding template based on representative parts of the data is developed, and, subsequently, is revised and refined [26]. It facilitates the use of a priori themes which can later be modified or excluded as the data analysis evolves, as the researchers read and re-read the data. The identification of templates is thus iterative in nature - some are established

initially as more important and then, after thorough reading and re-reading of the data transcripts, may be seen as less important or more important. This helps to compare perspectives between different categories of participant, in this case, GPs and medical students. It is a practical method that is well suited to a team involving multiple coders as it gives the freedom to the team to collaborate on the direction and content of the coding. The process involved over six meetings of the coders (AOR, VN, JOD).

Initially, the coders read the full interview texts to familiarise themselves with the raw data. Preliminary data coding was conducted independently with the use of a priori themes that the researchers expected to appear in the data; only a priori themes related to the research question were chosen. These included benefits of social media, personal and professional use, and potential pitfalls. The initial codes and themes were used to define a coding template; this facilitated the researchers to understand the relationship between the codes and themes, whilst maintaining flexibility so that more codes and themes could be added as the hierarchical analysis developed. Coders discussed personal experiences with social media and attitudes towards the scenarios in the vignettes, a process known as "active-acknowledgement" for overcoming researcher bias [27]. Discrepancies were resolved by personal reflection and ongoing dialogue between the data analysis team.

Findings

The analysis produced three overarching themes, each with subthemes that were often interconnected and, in some cases, had overlapping ideas.

1. Staying in contact and up to date

This theme refers to the practical, day-to-day applications of social media for medical students and GPs. Social media has undoubted social and networking benefits, and these were highlighted by participants, as well as the challenging nature of the information available- which can help participants

stay up to date, but which can waste time also. This theme has been divided into two subthemes: 'staying connected' and 'educational tool'.

1.1 Staying connected

Maintaining friendships and staying in touch with others was the primary stated use of social media platforms. One student said how helpful Facebook was in keeping touch with family throughout the world and with a network of friends from a previous course, while another felt that the speed and ease of access may come at the cost of maintaining meaningful relationships.

"perhaps they are superficial relationships, but you know I feel like if I didn't have 'Facebook', particularly I would absolutely lose contact with these people." [student, male]

Social media was perceived as very useful for staying in touch, but there appeared to be an awareness of the link between social media abuse when interviewing for jobs or being publicly castigated for holding the 'wrong' view on a contentious topic.

"I am very conscious about putting up things like my date of birth, things about politics… of not giving away too much about myself." [student, female]

In this quote there is both the appreciation of confidential personal details such as "date of birth" but also the sense that there are areas which are personal and private, such as political views. This raised the idea that students and GPs alike were aware of the importance of boundary setting and so social media must be approached carefully.

1.2 'Educational tool'

This subtheme describes how, on one hand, social media platforms have significantly enhanced learning but, on the other, must be handled with care. Concerns about social media distracting from learning were evident for GPs and students:

"you can spend hours and hours just scrolling going from Twitter to Facebook to LinkedIn." [general practitioner, male]

"99% of the time it is just for killing time." [student, male]

Some medical experts post clinical pictures and scenarios and invite students to suggest differential diagnoses, often giving the correct answer and an explanation at a later point. While this was appreciated by one student in the interview, in the follow-up vignette discussion he then questioned the professional ethics of posting patient information in a publicly accessible forum, and the concepts of consent and confidentiality were raised. When asked about professional concerns relating to one vignette (on online sharing of clinical educational material) all participants acknowledged the importance of confidentiality.

"I think you need to be careful about what you post. Personally, for myself, as a rule of thumb, I don't think you should post anything about clinical… a clinical scenario or anything because that could get you into trouble." [student, female]

Most noticeable in this last statement is the tension between a very useful medical pedagogical tool, which may benefit medical students, and the ethicality of referring to identifiable patient case studies.

2. Online persona

This theme analyses the process whereby learners at all stages of the medical continuum negotiate an online image and attempt to balance personal and professional dimensions. There are three subthemes: 'crafting an image', 'societal expectations' and 'boundaries are blurring'.

2.1 Crafting an image

Participants agreed that care had to be taken with how medical students/clinicians present themselves online. Students and GPs were aware that various platforms serve very different purposes. Both groups indicated a degree of embarrassment with self-promotion on social media. All participants were conscious of how they would be perceived by the public. Several felt it was important to be selective with what gets posted to craft a positive image:

"you can hold an image of yourself… put up the photos where you look good are having a wonderful time…. I suppose also, some people open their hearts a bit too much… it probably doesn't cast them in the best light even if that is not their intention." [student, male]

Another student explained this concept further, detailing how he restricted what he posted to paint an almost superhuman version of himself.

"the image you are trying to maintain could be what you identify with or what you want to identify with, but you are not really that, so kind of detachment is potentially harmful particularly with young people…. There is a culture of social media that is centred around vanity and around what you want to identify with versus what you actually identify with." [student, male]

This quote strongly points to the tensions and pressures in emotional self-regulation involved in using such impression management strategies. It also highlights the danger, when using social media, of a cognitive dissonance between the image medical students and doctors wish to project and the extent to which this image accurately reflects who they are.

2.2 Societal expectations

This theme considers how participants think society might view them when using social media. An experienced GP participant felt strongly that society expects something more from medical students compared to other students as they are "future doctors". This question as to whether society should expect a higher standard for doctors permeated most of the interviews.

"maybe somebody looking on would say… 'I don't care if my plumber has 20 pints at the weekend… or I see them on 'Facebook' running… with no clothes on' – but I don't want to see a GP on Monday morning who has been doing that." [general practitioner, male]

The fear of reputation damage was balanced with the realisation that we cannot all be perfect all the time. One student described this succinctly but still advised the utmost caution when using social media:

"We are only human. I mean, God forbid, Watson and Crick who discovered DNA, I am sure they were mad for their lush [alcohol] every once in a while, but who cares?" [student, male]

Other students took an opposing view and expressed in both interview and follow-up vignette the need to maintain professional conduct on and off duty.

"They have a reputation to maintain and here they are not representing themselves in a professional manner." [student, male]

In some instances, there was dissonance between the view expressed by a participant in the interview and that of the same participant in the follow-up vignettes. One student, when asked about societal expectations, cited the example of a picture shared on a social media platform of a doctor smoking a cigarette, saying that it made no sense for that doctor then to be telling patients not to smoke. When asked to comment on the vignette where a patient expressed concern about doctors who were potentially going to operate on her and had appeared drunk on a social media platform, she responded:

"I would tell her that doctors can't be doctors all of the time" [student, female]

A very striking example of this is the extent to which doctors are now having to demarcate their public and private life is the remark from one GP about how they had been told to circumvent their social media behaviour at a wedding:

"I suppose you can try to make it as private as you can, but I don't know if people entirely understand the rules of it, you know when pictures go up I don't think you're even able to take them down or that kind of thing. I think people are kind of wary of that you know when pictures are being taken on a night out or something you know people might say "don't put them on Facebook". I was at a wedding recently of a doctor and there was a request on the invite not to put any pictures up on social media." (general practitioner, female)

Aside from doctors not being allowed to have a personal life or having to be aware that parts of it may be captured inadvertently on social media such that they must take steps to prevent this, there is also the sense that the rules for social media usage are evolving but that this GP and others are not clear what those rules are and who is deciding upon them.

2.3 Boundaries are blurring

This subtheme refers to the changing dynamic between doctors and patients to which social media is contributing. GP participants agreed that it was not unusual to have friends who might be taken on as patients or to have social interaction in the community with existing patients. However, the introduction of social media has the potential to destroy privacy and to blur the boundary between personal and professional.

Friend requests on 'Facebook' were cited by many students an GPs as a potential source of compromise with all viewing it as an inappropriate relationship, fraught with possibilities of doctors' personal information being inappropriately viewed as well as the potential for medical advice being requested online. The risk to patient safety brought about by casual contact and giving of advice in a non-clinical and more relaxed social media environment was pointed out. One GP emphasised maintaining a division between personal and professional life:

"It is about keeping things separate. Your personal life and your professional life." [general practitioner, male]

This points, once again, to the need for individual doctors to decide where they are going to draw their boundary lines with their patients online. Many participants talked about withdrawing from social media interaction or making it difficult for the public to find them. Given that we are all fallible one GP highlighted the need for doctors to be careful about how they use social media:

"I would try and avoid it. I think the importance of being a good doctor is to limit yourself. So, for example you would, you can't be good 24-7. You can't be empathic 24-7. We are all human, we have moods, we say the wrong thing, we do the wrong thing. I can only imagine someone Facebook messaging me that they have a bit of indigestion or a bit of headache or something along those lines and me not responding or me responding in an off-handed way in a less than professional manner and then the inevitable happens, they have pneumonia, they have meningitis, they have cardiac issues or something and of course they have contacted me and I have contacted them and it has been unprofessional and that means that I am partly responsible for what happened. So, I am very wary of patients using social media to contact me" (general practitioner, male)

This ties into the final theme of what exactly is proper use of social media by doctors.

3 Towards standards and safety

This final theme illustrates the current uncertainty regarding what it means to be a medical professional on social media. There are two subthemes – 'clarifying the standard' and 'safe navigation'.

3.1 Clarifying the standard

While the data shows that there is awareness among all participants of some ethical dimensions and legal ramifications of poor conduct on social media, there was no clear consensus on what is acceptable. One GP, while aware of the limitations of his own experience with social media, expressed concern for medical students:

"people who have spent all their waking hours for the last ten years stuck in a room swotting, most of them don't have life experience and are not worldly-wise and therefore are very innocent… they are just not aware of the huge implications this can have on their future so I think that needs to be spelled out very clearly and explicitly." [general practitioner, male]

GPs and students appeared to disagree on whether clinical experiences could be shared online for teaching and reflective purposes. The vignettes magnified this uncertainty and were useful in presenting examples of where such social media dilemmas might occur. Most of the GPs believed that there was insufficient guidance provided for them and for students. They agreed that a clear set of guidelines was necessary that would uphold good professional conduct while protecting individuals who, in their leisure time, were trying to unwind:

"It is a stressful enough job. You would hate to think that people would be told that you can never let your hair down, you can never do this or that. I think there has to be a balance somewhere." [general practitioner, female]

This quote underlines the imperative of educating future and current physicians in the use of social media to achieve a private social life.

3.2 Safe Navigation

This final subtheme connects the perceptions found throughout the data on how students and GPs might successfully and safely navigate social media platforms, accessing education and connecting

with others, while at the same time keeping themselves plus their current and future patients safe. GPs were very clear on what type of information should not be divulged on social media platforms:

"Any info. that you think could harm you, your family or your patients." [general practitioner, female]

The follow-up vignettes revealed that for three of the students, there was a high level of awareness of risks with sharing information online. They recognised the potential for litigation and damaged career opportunities as consequences of inappropriate use of social media platforms. However, a fourth student, did not appear to have this level of awareness and was actively engaging in broadcasting her own clinical experiences seemingly without awareness of the dangers:

"I have a [You Tube] channel that I just started, and I am just uploading some videos about my life… about medicine"

[Interviewer] Do you think there are any risks with that?

"no, not really." [student, female]

There was no evidence among participants of any level of participation in formal education on engaging social media, and for most, awareness seemed to come from life experience. One student told how lessons learned about life as a younger girl influenced her behaviour on SMPs:

" My dad used to always give us lectures about pictures which I totally understand so I do have certain settings on 'Facebook' which only allows… not even all my friends to see my photos" [student, female]

There was a notable lack of awareness of the existence of guidelines among both groups of participants. All agreed that, in general, social media can be positive thing, but most urged caution and showed awareness of risk.

"I think overall, social media is great but just be careful with it. That is the long and the short of it." [general practitioner, male]

Discussion

The analysis has provided new insights into the research question exploring GPs and medical students experience of and perspectives on social media use and behaviour. While educational and networking benefits to the profession exist, most expressed unease about boundary setting and staying safe on these platforms. GPs and medical students appeared to agree that there was a line between professional and personal realms that needed to be maintained, but for medical students, defining where that boundary lies was difficult to conclude.

The scenario that caused the most disagreement among participants related to a video of doctors behaving unprofessionally during their time off, with some defending them and others saying it was unacceptable to behave in a certain way at any time. The statement in our study that "doctors can't be doctors all of the time" is a dominant theme. An important point in our study is the discordance between what participants think and what they say, as illustrated by the follow up interview seeking their reactions to vignettes. Other research has reported similar inconsistencies, where respondents acknowledged that inappropriate social media use was common but were far more likely to interpret the behaviour as being inappropriate when it was reported among colleagues rather than themselves [17]. Establishing boundaries in a social media age is difficult for all citizens but especially for doctors as they expected to practise to the highest level. The quote regarding Crick and Watson was very apposite in this respect.

The theme of 'crafting an image' refers to the efforts of medical students and physicians to portray themselves favourably on social media. This phenomenon has been described as an online "identity crisis" for medical professionals [28]. Researchers have warned of the problem of conflating "self-expression, self-promotion and self-communication" [29]. Research with health care professionals on the subject of 'digital identity' formation identified the potential for conflict when professional, personal, public and private identities did not align [30]. The 'communities of practice' theory of identity formation addresses how personal and professional identities should be congruent. To this

end, role-modelling, mentoring, experiential learning, reflection, and support from medical educators are important.

The concept of dual relationships, whereby professionals and the public interact formally at times and informally at other times is brought to a greater level of acuity by social media where 'context collapses'- a point emphasised in our data [31]. Formal education at medical school in digital professional identity formation in medical school curricula is thus important as is subsequent professional accreditation [32]. Some of the participants in our study were aware of which social media platforms to use for various purposes and how to use privacy settings to ensure safety. Scholars have called for systematic approaches to the instruction of e-professionalism so that it can be incorporated into existing curricula [33].

The generational difference between the two groups of participants - students and general practitioners, is another important consideration. The so-called 'generation Z' or millennials who have grown up with social media are thought to be more aware of its use for personal branding and career promotion [34]. This raises the matter of how these generations may have experienced social media differently and how it may be an important effect- the 'cohort effect' as it is known in research on depression, for example, where younger generations report greater incidence of depression [35]. Without negating the cohort effect theory, the participants' responses on social media were striking in that they raised similar themes to the GPs, e.g. of the effect posting intemperate remarks or ill-advised images would have on a medical practitioner's career. This suggests a 'trans-generational' appreciation of the gravitas associated with medical practice which may be affected by the increasing presence of social media in our personal and private lives.

Guidance from medical educators in the USA advised reflection on social media identity, and with who and how they will interact [36]. The seriousness of inappropriate social media use is recognised by training bodies [37], and early reports of pilot interventions designed to teach social media professionalism have met with success [38].

Strengths and weaknesses

The "two stage" nature of the study, involving in depth interviews followed up by a phone call soliciting views on hypothetical scenarios, was a particular strength as it allowed participants to reflect on their views. A useful cross-cultural element was the participation of GPs and medical students from Ireland and North America. The use of a theoretical framework facilitated understanding of the data in terms of prior knowledge and theory, while allowing flexibility to incorporate new themes. Limitations of the study were its location in a single medical school in Ireland and the small sample size. The results may not be transferrable to other countries and may not be reflective of younger medical students and older clinicians. The interviewer was known to most of the participants which, on one hand, may exaggerate the propensity of participants to give socially desirable answers in the context of behaviour – a phenomenon known as social desirability bias [39]; on the other, it may produce richer data due to the easy establishment of rapport and trust [40].

Implications for further research and practice

Research is warranted to identify how best to teach safe practices for engaging with social media. Clear and dynamic guidelines for medical students and GPs are needed for ethical social media use in the medical profession due to the rapidly changing speed and scope of social media.

We have outlined operational guidance based on the study findings for professional practice:

- Medical educators should support students to use social media as a means of engaging in communities of practice with peers and senior colleagues.
- Existing medical curricula must incorporate social media policies and formal instruction on e-professionalism.

- Educators should acknowledge the tensions between personal and professional identities.
- Specific guidance is needed for students on what is appropriate to post and where and with whom it is appropriate to interact.
- We have identified a need for skills teaching on how identities are developed and the setting of boundaries and this may extend beyond social media use.

Conclusion

Students and GPs view social media as a positive resource for the medical profession. Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their right to a private life in which ineffective use of social media does not negatively affect career prospects.

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Contributors

MM was involved in the study design, data collection and analysis and helped to write the first draft; VN was involved in the data analysis and write up, ES was involved in study design, oversight, analysis and write-up; JMD was involved in the data analysis and write up; ROC was involved in data analysis, write-up; JOD was involved in study design, data analysis and write-up; AOR was involved in all stages of the project. Each author contributed to all drafts of the paper and read and approved the final manuscript.

Competing interests

We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

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Table 1: Participant Characteristics

GPs/ final year Medical Student	Gender[M/F]	Age Category [20-30], [30-40], [40+]	Style of Interview [face to face, phone, Skype]
Interview 1: GP	F	30-40	Phone
Interview 2: GP	M	30-40	Phone
Interview 3: Medical Student	M	20-30	Skype
Interview 4: Medical Student	M	20-30	Face-to-face
Interview 5: Medical Student	M	20-30	Face-to-face
Interview 6: Medical student	F	30-40	Face-to-face
Interview 7: GP	M	40+	Face-to-face
Interview 8: Medical student	F	20-30	Face-to-face

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	5
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	13
Occupation	3	What was their occupation at the time of the study?	13
Gender	4	Was the researcher male or female?	5
Experience and training	5	What experience or training did the researcher have?	5
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	n/a
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	5
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	4
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	4
Sample size	12	How many participants were in the study?	4-5
Non-participation	13	How many people refused to participate or dropped out? Reasons?	n/a
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	4-5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	n/a
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	4
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	4
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	4
Field notes	20	Were field notes made during and/or after the inter view or focus group?	n/a
Duration	21	What was the duration of the inter views or focus group?	4
Data saturation	22	Was data saturation discussed?	4-5
Transcripts returned	23	Were transcripts returned to participants for comment and/or	n/a

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	5
Description of the coding tree	25	Did authors provide a description of the coding tree?	n/a
Derivation of themes	26	Were themes identified in advance or derived from the data?	5
Software	27	What software, if applicable, was used to manage the data?	n/a
Participant checking	28	Did participants provide feedback on the findings?	no
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	6-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	6-11
Clarity of major themes	31	Were major themes clearly presented in the findings?	6-11
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	6-11

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Interview Guide

Interview Guide
1. Tell me about your experience of social media.
2. Do you share personal information online such as pictures, location and employment status? If yes/no, why?
3. Do you use social media for personal or professional use?
4. What do you feel are the benefits of using social media apps?
5. What do you feel are the risks associated with the use of social media?
6. As a clinician/ future clinician how would you feel about patients contacting you/following you on social media?

Vignettes

Follow up interviews: Vignettes
1. "Michelle Kelly is a student nurse. She recently posted a photo to twitter showing the Accident and Emergency room of the hospital in which she is training on a Saturday night. The caption for the photograph was "The crazies are really out tonight…". There were several patients in the photograph, although only one is readily identifiable. You see from her feed that she is "friends" with a number of former patients on facebook. In a series of posts with one former patient, John, they discuss the upsetting nature of the injuries received by an unidentified patient, with whom John shared a room". • What ethical and professional issues arise here? • Which means of social media are suitable for sharing clinical experiences? • What types of information are unsuitable for social media?
2. "As a senior house officer in a busy surgical outpatients clinic, you consult with a young lady who is on the laparoscopy waiting list. She appears disconcerted and tells you about a recent you tube video link that was shared with her by a friend.

The video involved a group of young men who appeared drunk and were taking turns jumping into a swimming pool after drinking a pint of alcohol. She recognised one of them as the surgical registrar who booked her for her upcoming laparoscopy. She has since found out that the others were also junior doctors in the hospital. She tells you that, although she has no problem with clinicians enjoying themselves, she would not be comfortable with such unprofessional type people having such involvement in her health".

- How would you approach this problem with the patient?
- What ethical and professional issues arise here?

3. "While on placement in final year of physiotherapy, a friend sends you a screen shot of a blog that one of your classmates is running. The classmate is a very hard working student and has always shared resources with you. The blog is a day by day account of your classmate's clinical encounters, highlighting learning points and tips for the final year examination. The screenshot is of a paragraph outlining in detail the history of a road traffic accident that led to a client presenting to her. The client's name is not given but the gender, age, locality and date of accident is documented. The screenshot is followed by this comment from your friend: "no prizes for guessing who this guy is!"

- Would you act on this information? If so, how?
- What ethical and legal dilemmas arise while sharing experiences online?

BMJ Open

"Doctors can't be doctors all of the time": a qualitative study of how general practitioners and medical students negotiate public- professional and private-personal realms using social media

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Title page

"Doctors can't be doctors all of the time": a qualitative study of how general practitioners and medical students negotiate public- professional and private-personal realms using social media

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Key words – General Practice, Social media, online professionalism, medical education

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Abstract

Objective- The objective of this study is to explore the experiences and perspectives of general practitioners' and medical students' use of, and behaviour on, social media and to understand how they negotiate threats to professional and personal life on social media.

Design- A two phase qualitative design was employed, consisting of semi-structured interviews and follow-up vignettes, where participants were asked to respond to vignettes that involved varying degrees of unprofessional behaviour. Data were analysed using template analysis.

Setting and Participants- Participants were general practitioner tutors and third year medical students who had just completed placement on the University of Limerick longitudinal integrated clerkship. Five students and three general practitioners affiliated with the medical school were invited to participate in one-to-one interviews.

Results – three overarching themes, each containing subthemes were reported. 'Staying in contact and up to date' outlines how social media platforms provide useful resources and illustrates the potential risks of social media. 'Online persona' considers how social media have contributed to changing the nature of inter-personal relationships. 'Towards standards and safety' raises the matter of how to protect patients, doctors and the medical profession.

Conclusion - Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their private life so that poorly judged use of social media does not negatively affect career prospects and professional efficacy.

Strengths and Weaknesses of the Study

- The sampling method facilitated balance of gender, age and nationality of participants.
- The conceptual lens, communities of learning, situated the data in terms of accepted theory and evidence.
- The use of vignettes provided rich data on participants' experience of social media use and behaviour.
- The study was limited to one cohort of participants in a single medical school.
- The number of participants was relatively small (N=8).

Introduction

Social media is defined as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" [1]. It has become an effective communication tool for public health to convey information to populations in 'real-time' during the COVID-19 pandemic [2]. While social media can improve communication in some instances, the associated environment is fraught with the danger of suboptimal communication [3]. A comprehensive review warned that, for health professionals and patients, social media can negatively impact on mental health, privacy and information quality [4]. The concept of 'online professionalism', rooted in the traditional values of medicine, has evolved in the past decade in response to the challenges of the constantly changing social media sphere [5].

Unprofessional online behaviour resulting in disciplinary action for medical students and doctors is concerning [6]; one international study reported that almost one fifth of the medical students surveyed admitted to sharing clinical images inappropriately [7]. Similarly, surveys of medical students in Australia [8], England [9] and the USA [10] reported that unprofessional social media posting was common. While regulatory guidelines are available, inappropriate behaviour on social media remains problematic [11], with the majority of residents in one study admitting to having posted inappropriate photographs of medical colleagues intoxicated on social media [12]. In this context, the findings of cross-sectional survey of the public are relevant; it reported that inappropriate use of social media by physicians, including images of intoxication, would cause patients to trust them less [13]. Such implications have been highlighted by medical ethicists [14]. The phenomenon is not restricted to doctors – over half of respondents in a survey of registered nurses said that they had witnessed inappropriate online behaviour among colleagues [15]. Furthermore, postgraduate programme directors frequently check the social media profiles of residency applicants for inappropriate behaviour [16].

Recent research surveys of medical students, residents and consultants, reported that almost one third of students had posted inappropriate photographs of themselves on social media; the findings among residents and consultants were significantly lower [17]. This raises the question of whether there is an effect for age in the use of social media; a systematic review examining the impact of social media on medical professionals encouraged intergenerational dialogue [18].

Physicians and students may be unsure of the full medical, professional, and personal reputational consequences of the new social media age [19, 20]. Ethical concerns also include the public-professional and private-personal spheres. Few qualitative studies examining the views of medical students and those of their clinical supervisors on this topic exist. The aim of this study was to explore general practitioners' (GPs) and medical students' perspectives on and experience of social media. Specific objectives were to investigate how students and their GP-tutors utilise social media; what challenges they encounter in keeping boundaries between professional and personal identities and private and public realms; how they negotiate these challenges and conduct themselves professionally when using online platforms.

Conceptual framework

'Communities of practice' is a popular theory for conceptualising the development of medical professional identity [21], whereby the medical profession is understood both as a "collegial profession and community of practice" [21]. The theory states that successful identity formation depends on a dynamic interplay between members of the medical community at different stages of the medical continuum. To this end social media can supplement but not replace "meaningful contact with members of the community", which is considered in this framework to be the most important factor in professional identity formation [21].

A qualitative epistemic approach leads to a methodology which teases out the subjective experience of a research participant, and that is why interviews and responding to short vignettes were selected for this study. Given we are not trying to make an invariant real word truth claim, such as with large

sample size quantitative studies, we chose a conceptual-methodological approach that investigated the depth and breadth of how medical doctors and students experience social media in their personal and professional lives. Thus, the theoretical contribution of our paper is to say that social media is not merely a communication tool but is a fluid medium in which people posit varying identities and often negotiate these with themselves, their colleagues, patients and with those in the social media sphere, and that it is particularly difficult for doctors as they expect so much from themselves and have so much expected from them by others.

Methodology

Study design

The study adhered to the COREQ [Consolidated criteria for reporting qualitative research] principles for reporting qualitative research (supplementary material 1) [22]. Ethical approval was granted by the University of Limerick Education and Health Science Faculty Ethics Committee [2017_05_17_EHS]. Participants were contacted by email sent from a research administrator who was not involved in course teaching and assessment, thus ensuring no power dynamic or coercion. This study utilised a hybrid methodology whereby an in-depth, semi-structured interview based on a topic guide designed by the research team was followed, for some participants, by a second interview structured using short ethical dilemmas on social media described here as vignettes.

Setting and Participants

Participants were GP tutors and third year medical students who had just completed a longitudinal integrated clerkship [23]. Five medical students and three GPs participated in the study. Purposive, non-probabilistic, sampling was used to ensure that a balance was achieved between students from Europe and North America and that both male and females were selected to be as representative as possible of the student population. The characteristics of the participants are outlined in table 1. As judgemental sampling involves the judgement of the researchers based, for example, on their

expertise and knowledge of previous research it was decided to base the sample size on a previous qualitative study on medical student mobile phone usage [24]. The interview process worked through the eight participants until no new themes were emerging. This is known as data saturation- the 'stopping criterion' [25] for the data collection being met as those being interviewed are repeating themes mentioned by others or are not suggesting new themes.

{Insert table 1 here}

Public and patient involvement

No patients were involved in the study, but the research question was derived from classroom discussions and interactions with medical students GP-tutors.

Data Collection

The interview guide was developed by an interdisciplinary team, and vignettes were developed by two of the research team (ES, AOR) with the purpose of exploring students' and clinicians' responses to examples of unprofessional behaviour online by healthcare workers (supplementary material 2). These vignettes were designed so that doctors and medical students could give ethical and professional perspectives not simply on themselves but also on those with whom they work and will be working in their medical careers. Participants were asked to respond to three separate scenarios which required them to consider the ethical dilemmas and professional practice challenges of using social media personally and professionally. Where the themes explored in the vignettes were addressed by the participants in their initial interview they were not interviewed again with the aid of the vignettes.

Interviews were conducted by a trained female researcher (MM), who would have known some of the participants and lasted between 15 and 30 minutes. These were conducted either by telephone, Skype or in person and were digitally recorded, with the explicit consent of those participating. Where participants were invited to a second interview, if their first interview had not addressed the themes

in the vignettes, they were shown or read short vignettes about use of social media and their opinions were elicited.

Data analysis

The methodology utilised was template analysis. A coding template based on representative parts of the data is developed, and, subsequently, is revised and refined [26]. It facilitates the use of a priori themes which can later be modified or excluded as the data analysis evolves, as the researchers read and re-read the data. The identification of templates is thus iterative in nature - some are established initially as more important and then, after thorough reading and re-reading of the data transcripts, may be seen as less important or more important. This helps to compare perspectives between different categories of participant, in this case, GPs and medical students. It is a practical method that is well suited to a team involving multiple coders as it gives the freedom to the team to collaborate on the direction and content of the coding. The process involved over six meetings of the coders (AOR, VN, JOD).

Initially, the coders read the full interview texts to familiarise themselves with the raw data. Preliminary data coding was conducted independently with the use of a priori themes that the researchers expected to appear in the data; only a priori themes related to the research question were chosen. These included benefits of social media, personal and professional use, and potential pitfalls. The initial codes and themes were used to define a coding template; this facilitated the researchers to understand the relationship between the codes and themes, whilst maintaining flexibility so that more codes and themes could be added as the hierarchical analysis developed. Coders discussed personal experiences with social media and attitudes towards the scenarios in the vignettes, a process known as “active-acknowledgement” for overcoming researcher bias [27]. Discrepancies were resolved by personal reflection and ongoing dialogue between the data analysis team.

Findings

The analysis produced three overarching themes, each with subthemes that were often interconnected and, in some cases, had overlapping ideas.

1. Staying in contact and up to date

This theme refers to the practical, day-to-day applications of social media for medical students and GPs. Social media has undoubted social and networking benefits, and these were highlighted by participants, as well as the challenging nature of the information available- which can help participants stay up to date, but which can waste time also. This theme has been divided into two subthemes: 'staying connected' and 'educational tool'.

1.1 Staying connected

Maintaining friendships and staying in touch with others was the primary stated use of social media platforms. One student said how helpful Facebook was in keeping touch with family throughout the world and with a network of friends from a previous course, while another felt that the speed and ease of access may come at the cost of maintaining meaningful relationships.

"perhaps they are superficial relationships, but you know I feel like if I didn't have 'Facebook', particularly I would absolutely lose contact with these people." [student, male]

Social media was perceived as very useful for staying in touch, but there appeared to be an awareness of the link between social media abuse when interviewing for jobs or being publicly castigated for holding the 'wrong' view on a contentious topic.

"I am very conscious about putting up things like my date of birth, things about politics… of not giving away too much about myself." [student, female]

In this quote there is both the appreciation of confidential personal details such as "date of birth" but also the sense that there are areas which are personal and private, such as political views. This raised

the idea that students and GPs alike were aware of the importance of boundary setting and so social media must be approached carefully.

1.2 'Educational tool'

This subtheme describes how, on one hand, social media platforms have significantly enhanced learning but, on the other, must be handled with care. Concerns about social media distracting from learning were evident for GPs and students:

"you can spend hours and hours just scrolling going from Twitter to Facebook to LinkedIn." [general practitioner, male]

"99% of the time it is just for killing time." [student, male]

Some medical experts post clinical pictures and scenarios and invite students to suggest differential diagnoses, often giving the correct answer and an explanation at a later point. While this was appreciated by one student in the interview, in the follow-up vignette discussion he then questioned the professional ethics of posting patient information in a publicly accessible forum, and the concepts of consent and confidentiality were raised. When asked about professional concerns relating to one vignette (on online sharing of clinical educational material) all participants acknowledged the importance of confidentiality.

"I think you need to be careful about what you post. Personally, for myself, as a rule of thumb, I don't think you should post anything about clinical… a clinical scenario or anything because that could get you into trouble." [student, female]

Most noticeable in this last statement is the tension between a very useful medical pedagogical tool, which may benefit medical students, and the ethicality of referring to identifiable patient case studies.

2. Online persona

This theme analyses the process whereby learners at all stages of the medical continuum negotiate an online image and attempt to balance personal and professional dimensions. There are three subthemes: 'crafting an image', 'societal expectations' and 'boundaries are blurring'.

2.1 Crafting an image

Participants agreed that care had to be taken with how medical students/clinicians present themselves online. Students and GPs were aware that various platforms serve very different purposes. Both groups indicated a degree of embarrassment with self-promotion on social media. All participants were conscious of how they would be perceived by the public. Several felt it was important to be selective with what gets posted to craft a positive image:

"you can hold an image of yourself… put up the photos where you look good are having a wonderful time…. I suppose also, some people open their hearts a bit too much… it probably doesn't cast them in the best light even if that is not their intention." [student, male]

Another student explained this concept further, detailing how he restricted what he posted to paint an almost superhuman version of himself.

"the image you are trying to maintain could be what you identify with or what you want to identify with, but you are not really that, so kind of detachment is potentially harmful particularly with young people…. There is a culture of social media that is centred around vanity and around what you want to identify with versus what you actually identify with." [student, male]

This quote strongly points to the tensions and pressures in emotional self-regulation involved in using such impression management strategies. It also highlights the danger, when using social media, of a cognitive dissonance between the image medical students and doctors wish to project and the extent to which this image accurately reflects who they are.

2.2 Societal expectations

This theme considers how participants think society might view them when using social media. An experienced GP participant felt strongly that society expects something more from medical students compared to other students as they are "future doctors". This question as to whether society should expect a higher standard for doctors permeated most of the interviews.

"maybe somebody looking on would say… 'I don't care if my plumber has 20 pints at the weekend… or I see them on 'Facebook' running… with no clothes on' – but I don't want to see a GP on Monday morning who has been doing that." [general practitioner, male]

The fear of reputation damage was balanced with the realisation that we cannot all be perfect all the time. One student described this succinctly but still advised the utmost caution when using social media:

"We are only human. I mean, God forbid, Watson and Crick who discovered DNA, I am sure they were mad for their lush [alcohol] every once in a while, but who cares?" [student, male]

Other students took an opposing view and expressed in both interview and follow-up vignette the need to maintain professional conduct on and off duty.

"They have a reputation to maintain and here they are not representing themselves in a professional manner." [student, male]

In some instances, there was dissonance between the view expressed by a participant in the interview and that of the same participant in the follow-up vignettes. One student, when asked about societal expectations, cited the example of a picture shared on a social media platform of a doctor smoking a cigarette, saying that it made no sense for that doctor then to be telling patients not to smoke. When asked to comment on the vignette where a patient expressed concern about doctors who were

potentially going to operate on her and had appeared drunk on a social media platform, she responded:

"I would tell her that doctors can't be doctors all of the time" [student, female]

A very striking example of this is the extent to which doctors are now having to demarcate their public and private life is the remark from one GP about how they had been told to circumvent their social media behaviour at a wedding:

"I suppose you can try to make it as private as you can, but I don't know if people entirely understand the rules of it, you know when pictures go up I don't think you're even able to take them down or that kind of thing. I think people are kind of wary of that you know when pictures are being taken on a night out or something you know people might say "don't put them on Facebook". I was at a wedding recently of a doctor and there was a request on the invite not to put any pictures up on social media." (general practitioner, female)

Aside from doctors not being allowed to have a personal life or having to be aware that parts of it may be captured inadvertently on social media such that they must take steps to prevent this, there is also the sense that the rules for social media usage are evolving but that this GP and others are not clear what those rules are and who is deciding upon them.

2.3 Boundaries are blurring

This subtheme refers to the changing dynamic between doctors and patients to which social media is contributing. GP participants agreed that it was not unusual to have friends who might be taken on as patients or to have social interaction in the community with existing patients. However, the introduction of social media has the potential to destroy privacy and to blur the boundary between personal and professional.

Friend requests on 'Facebook' were cited by many students an GPs as a potential source of compromise with all viewing it as an inappropriate relationship, fraught with possibilities of doctors' personal information being inappropriately viewed as well as the potential for medical advice being requested online. The risk to patient safety brought about by casual contact and giving of advice in a non-clinical and more relaxed social media environment was pointed out. One GP emphasised maintaining a division between personal and professional life:

"It is about keeping things separate. Your personal life and your professional life." [general practitioner, male]

This points, once again, to the need for individual doctors to decide where they are going to draw their boundary lines with their patients online. Many participants talked about withdrawing from social media interaction or making it difficult for the public to find them. Given that we are all fallible one GP highlighted the need for doctors to be careful about how they use social media:

"I would try and avoid it. I think the importance of being a good doctor is to limit yourself. So, for example you would, you can't be good 24-7. You can't be empathic 24-7. We are all human, we have moods, we say the wrong thing, we do the wrong thing. I can only imagine someone Facebook messaging me that they have a bit of indigestion or a bit of headache or something along those lines and me not responding or me responding in an off-handed way in a less than professional manner and then the inevitable happens, they have pneumonia, they have meningitis, they have cardiac issues or something and of course they have contacted me and I have contacted them and it has been unprofessional and that means that I am partly responsible for what happened. So, I am very wary of patients using social media to contact me" (general practitioner, male)

This ties into the final theme of what exactly is proper use of social media by doctors.

3 Towards standards and safety

This final theme illustrates the current uncertainty regarding what it means to be a medical professional on social media. There are two subthemes – 'clarifying the standard' and 'safe navigation'.

3.1 Clarifying the standard

While the data shows that there is awareness among all participants of some ethical dimensions and legal ramifications of poor conduct on social media, there was no clear consensus on what is acceptable. One GP, while aware of the limitations of his own experience with social media, expressed concern for medical students:

"people who have spent all their waking hours for the last ten years stuck in a room swotting, most of them don't have life experience and are not worldly-wise and therefore are very innocent… they are just not aware of the huge implications this can have on their future so I think that needs to be spelled out very clearly and explicitly." [general practitioner, male]

GPs and students appeared to disagree on whether clinical experiences could be shared online for teaching and reflective purposes. The vignettes magnified this uncertainty and were useful in presenting examples of where such social media dilemmas might occur. Most of the GPs believed that there was insufficient guidance provided for them and for students. They agreed that a clear set of guidelines was necessary that would uphold good professional conduct while protecting individuals who, in their leisure time, were trying to unwind:

"It is a stressful enough job. You would hate to think that people would be told that you can never let your hair down, you can never do this or that. I think there has to be a balance somewhere." [general practitioner, female]

This quote underlines the imperative of educating future and current physicians in the use of social media to achieve a private social life.

3.2 Safe Navigation

This final subtheme connects the perceptions found throughout the data on how students and GPs might successfully and safely navigate social media platforms, accessing education and connecting with others, while at the same time keeping themselves plus their current and future patients safe. GPs were very clear on what type of information should not be divulged on social media platforms:

"Any info. that you think could harm you, your family or your patients." [general practitioner, female]

The follow-up vignettes revealed that for three of the students, there was a high level of awareness of risks with sharing information online. They recognised the potential for litigation and damaged career opportunities as consequences of inappropriate use of social media platforms. However, a fourth student, did not appear to have this level of awareness and was actively engaging in broadcasting her own clinical experiences seemingly without awareness of the dangers:

"I have a [You Tube] channel that I just started, and I am just uploading some videos about my life… about medicine"

[Interviewer] Do you think there are any risks with that?

"no, not really." [student, female]

There was no evidence among participants of any level of participation in formal education on engaging social media, and for most, awareness seemed to come from life experience. One student told how lessons learned about life as a younger girl influenced her behaviour on SMPs:

" My dad used to always give us lectures about pictures which I totally understand so I do have certain settings on 'Facebook' which only allows… not even all my friends to see my photos" [student, female]

There was a notable lack of awareness of the existence of guidelines among both groups of participants. All agreed that, in general, social media can be positive thing, but most urged caution and showed awareness of risk.

"I think overall, social media is great but just be careful with it. That is the long and the short of it." [general practitioner, male]

Discussion

The analysis has provided new insights into the research question exploring GPs and medical students experience of and perspectives on social media use and behaviour. While educational and networking benefits to the profession exist, most expressed unease about boundary setting and staying safe on these platforms. GPs and medical students appeared to agree that there was a line between professional and personal realms that needed to be maintained, but for medical students, defining where that boundary lies was difficult to conclude.

The scenario that caused the most disagreement among participants related to a video of doctors behaving unprofessionally during their time off, with some defending them and others saying it was unacceptable to behave in a certain way at any time. The statement in our study that "doctors can't be doctors all of the time" is a dominant theme. An important point in our study is the discordance between what participants think and what they say, as illustrated by the follow up interview seeking their reactions to vignettes. Other research has reported similar inconsistencies, where respondents acknowledged that inappropriate social media use was common but were far more likely to interpret the behaviour as being inappropriate when it was reported among colleagues rather than themselves [17]. Establishing boundaries in a social media age is difficult for all citizens but especially for doctors as they expected to practise to the highest level. The quote regarding Crick and Watson was very apposite in this respect.

The theme of 'crafting an image' refers to the efforts of medical students and physicians to portray themselves favourably on social media. This phenomenon has been described as an online "identity crisis" for medical professionals [28]. Researchers have warned of the problem of conflating "self-expression, self-promotion and self-communication" [29]. Research with health care professionals on the subject of 'digital identity' formation identified the potential for conflict when professional, personal, public and private identities did not align [30]. The 'communities of practice' theory of identity formation addresses how personal and professional identities should be congruent. To this end, role-modelling, mentoring, experiential learning, reflection, and support from medical educators are important.

The concept of dual relationships, whereby professionals and the public interact formally at times and informally at other times is brought to a greater level of acuity by social media where 'context collapses'- a point emphasised in our data [31]. Formal education at medical school in digital professional identity formation in medical school curricula is thus important as is subsequent professional accreditation [32]. Some of the participants in our study were aware of which social media platforms to use for various purposes and how to use privacy settings to ensure safety. Scholars have called for systematic approaches to the instruction of e-professionalism so that it can be incorporated into existing curricula [33].

The generational difference between the two groups of participants - students and general practitioners, is another important consideration. The so-called 'generation Z' or millennials who have grown up with social media are thought to be more aware of its use for personal branding and career promotion [34]. This raises the matter of how these generations may have experienced social media differently and how it may be an important effect- the 'cohort effect' as it is known in research on depression, for example, where younger generations report greater incidence of depression [35]. Without negating the cohort effect theory, the participants' responses on social media were striking in that they raised similar themes to the GPs, e.g. of the effect posting intemperate remarks or ill-

advised images would have on a medical practitioner's career. This suggests a 'trans-generational' appreciation of the gravitas associated with medical practice which may be affected by the increasing presence of social media in our personal and private lives.

Guidance from medical educators in the USA advised reflection on social media identity, and with who and how they will interact [36]. The seriousness of inappropriate social media use is recognised by training bodies [37], and early reports of pilot interventions designed to teach social media professionalism have met with success [38].

Strengths and weaknesses

The "two stage" nature of the study, involving in depth interviews followed up by a phone call soliciting views on hypothetical scenarios, was a particular strength as it allowed participants to reflect on their views. A useful cross-cultural element was the participation of GPs and medical students from Ireland and North America. The use of a theoretical framework facilitated understanding of the data in terms of prior knowledge and theory, while allowing flexibility to incorporate new themes. Limitations of the study were its location in a single medical school in Ireland and the small sample size. The results may not be transferrable to other countries and may not be reflective of younger medical students and older clinicians. The interviewer was known to most of the participants which, on one hand, may exaggerate the propensity of participants to give socially desirable answers in the context of behaviour – a phenomenon known as social desirability bias [39]; on the other, it may produce richer data due to the easy establishment of rapport and trust [40].

Implications for further research and practice

Research is warranted to identify how best to teach safe practices for engaging with social media. Clear and dynamic guidelines for medical students and GPs are needed for ethical social media use in the medical profession due to the rapidly changing speed and scope of social media.

We have outlined operational guidance based on the study findings for professional practice:

- Medical educators should support students to use social media as a means of engaging in communities of practice with peers and senior colleagues.
- Existing medical curricula must incorporate social media policies and formal instruction on e-professionalism.
- Educators should acknowledge the tensions between personal and professional identities.
- Specific guidance is needed for students on what is appropriate to post and where and with whom it is appropriate to interact.
- We have identified a need for skills teaching on how identities are developed and the setting of boundaries and this may extend beyond social media use.

Conclusion

Students and GPs view social media as a positive resource for the medical profession. Guidance is required for students and medical practitioners on how to establish reasonable boundaries between their personal and professional presence on social media and in their right to a private life in which ineffective use of social media does not negatively affect career prospects.

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Contributors

MM was involved in the study design, data collection and analysis and helped to write the first draft; VN was involved in the data analysis and write up, ES was involved in study design, oversight, analysis and write-up; JMD was involved in the data analysis and write up; ROC was involved in data analysis, write-up; JOD was involved in study design, data analysis and write-up; AOR was involved in all stages of the project. Each author contributed to all drafts of the paper and read and approved the final manuscript.

Competing interests

We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

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Table 1: Participant Characteristics

GPs/ final year Medical Student	Gender[M/F]	Age Category [20-30], [30-40], [40+]	Style of Interview [face to face, phone, Skype]
Interview 1: GP	F	30-40	Phone
Interview 2: GP	M	30-40	Phone
Interview 3: Medical Student	M	20-30	Skype
Interview 4: Medical Student	M	20-30	Face-to-face
Interview 5: Medical Student	M	20-30	Face-to-face

Interview 6: Medical student	F	30-40	Face-to-face
Interview 7: GP	M	40+	Face-to-face
Interview 8: Medical student	F	20-30	Face-to-face

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	5
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	13
Occupation	3	What was their occupation at the time of the study?	13
Gender	4	Was the researcher male or female?	5
Experience and training	5	What experience or training did the researcher have?	5
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	n/a
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	5
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	4
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	4
Sample size	12	How many participants were in the study?	4-5
Non-participation	13	How many people refused to participate or dropped out? Reasons?	n/a
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	4-5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	n/a
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	4
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	4
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	4
Field notes	20	Were field notes made during and/or after the inter view or focus group?	n/a
Duration	21	What was the duration of the inter views or focus group?	4
Data saturation	22	Was data saturation discussed?	4-5
Transcripts returned	23	Were transcripts returned to participants for comment and/or	n/a

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	5
Description of the coding tree	25	Did authors provide a description of the coding tree?	n/a
Derivation of themes	26	Were themes identified in advance or derived from the data?	5
Software	27	What software, if applicable, was used to manage the data?	n/a
Participant checking	28	Did participants provide feedback on the findings?	no
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	6-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	6-11
Clarity of major themes	31	Were major themes clearly presented in the findings?	6-11
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	6-11

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Interview Guide

Interview Guide
1. Tell me about your experience of social media.
2. Do you share personal information online such as pictures, location and employment status? If yes/no, why?
3. Do you use social media for personal or professional use?
4. What do you feel are the benefits of using social media apps?
5. What do you feel are the risks associated with the use of social media?
6. As a clinician/ future clinician how would you feel about patients contacting you/following you on social media?

Vignettes

Follow up interviews: Vignettes
1. "Michelle Kelly is a student nurse. She recently posted a photo to twitter showing the Accident and Emergency room of the hospital in which she is training on a Saturday night. The caption for the photograph was "The crazies are really out tonight…". There were several patients in the photograph, although only one is readily identifiable. You see from her feed that she is "friends" with a number of former patients on facebook. In a series of posts with one former patient, John, they discuss the upsetting nature of the injuries received by an unidentified patient, with whom John shared a room". • What ethical and professional issues arise here? • Which means of social media are suitable for sharing clinical experiences? • What types of information are unsuitable for social media?
2. "As a senior house officer in a busy surgical outpatients clinic, you consult with a young lady who is on the laparoscopy waiting list. She appears disconcerted and tells you about a recent you tube video link that was shared with her by a friend.

The video involved a group of young men who appeared drunk and were taking turns jumping into a swimming pool after drinking a pint of alcohol. She recognised one of them as the surgical registrar who booked her for her upcoming laparoscopy. She has since found out that the others were also junior doctors in the hospital. She tells you that, although she has no problem with clinicians enjoying themselves, she would not be comfortable with such unprofessional type people having such involvement in her health".

- How would you approach this problem with the patient?
- What ethical and professional issues arise here?

3. "While on placement in final year of physiotherapy, a friend sends you a screen shot of a blog that one of your classmates is running. The classmate is a very hard working student and has always shared resources with you. The blog is a day by day account of your classmate's clinical encounters, highlighting learning points and tips for the final year examination. The screenshot is of a paragraph outlining in detail the history of a road traffic accident that led to a client presenting to her. The client's name is not given but the gender, age, locality and date of accident is documented. The screenshot is followed by this comment from your friend: "no prizes for guessing who this guy is!"

- Would you act on this information? If so, how?
- What ethical and legal dilemmas arise while sharing experiences online?