

# BMJ Open Interpersonal factors contributing to tension in the Chinese doctor–patient–family relationship: a qualitative study in Hunan Province

Siyu Xiao <sup>1</sup>, Lixuan Wang,<sup>2</sup> E Jennifer Edelman,<sup>3</sup> Kaveh Khoshnood<sup>4</sup>

**To cite:** Xiao S, Wang L, Edelman EJ, *et al*. Interpersonal factors contributing to tension in the Chinese doctor–patient–family relationship: a qualitative study in Hunan Province. *BMJ Open* 2020;**10**:e040743. doi:10.1136/bmjopen-2020-040743

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-040743>).

Received 22 May 2020

Revised 29 July 2020

Accepted 23 October 2020



© Author(s) (or their employer(s)) 2020. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

<sup>1</sup>Department of Obstetrics and Gynecology and Women's Health, Albert Einstein College of Medicine, Bronx, New York, USA

<sup>2</sup>Division of Disease Control, New York City Department of Health and Hygiene, Queens, New York, USA

<sup>3</sup>Department of Internal Medicine, Yale School of Medicine, New Haven, Connecticut, USA

<sup>4</sup>Department of Epidemiology of Microbial Diseases, Yale School of Public Health, New Haven, Connecticut, USA

## Correspondence to

Dr Siyu Xiao;  
sxiao92@gmail.com

## ABSTRACT

**Objective** To identify actionable barriers to communication that contribute to tension in the Chinese doctor–patient–family relationship (DPFR) among surgeons, surgical patients and their family members. **Design** We employed qualitative research methods using in-depth, semistructured interviews in Mandarin and English and conducted preoperatively and postoperatively. Interviews were audio recorded, transcribed and translated into English. Data were analysed using thematic analysis. **Setting** An urban, tertiary-level teaching hospital in Hunan Province, China. **Participants** We recruited a purposive sample of 11 inpatients undergoing the same minor surgery, 9 of their family members and 9 surgeons between June and August 2015. **Results** We identified three emergent themes. First, trust degradation occurred before and during the healthcare experience. Second, the healthcare-seeking experience for patients and family members was marked by unmet expectations for achieving a basic understanding of the illness as well as powerlessness over their situation. Third, societal pressures on doctors contributed to a state of learned helplessness. **Conclusions** Our findings suggest that tension in the DPFR is associated with interpersonal and structural challenges, with communication playing an important role. Reforms at all levels are needed to promote a more patient-centred experience while ensuring the well-being and security of providers.

## INTRODUCTION

In recent years, tension in the doctor–patient–family relationship (DPFR) in China has become a major threat to healthcare delivery. The large body of local and international research and commentary on this issue suggest that its roots are multifactorial, complex and historical. They range from the privatisation of the healthcare sector in the 1980s that incentivised profit-seeking behaviour by hospitals and doctors,<sup>1 2</sup> to overcrowding of urban medical centres,<sup>3</sup> to a culture of settling disputes that circumvents an inadequate legal system, with instances of

## Strengths and limitations of this study

- Use of an inductive, qualitative approach achieved through a robust and iterative data analysis process with researchers of various backgrounds, which allows for a nuanced understanding of the research question.
- Cross-cultural research methodology involving translation, back translation and piloting of interview instruments before deployment; and checking of translated transcriptions by bilingual researcher.
- Triangulation of data from multiple perspectives, including family members who play a major role in Chinese medical care.
- Reliance on translation of materials between English and Chinese due to lead researcher with bilingual speech but not written skills.
- Inability to perform participant checking due to limited time period in the overseas research setting.

individuals resorting to public protest or even violence.<sup>4–7</sup> The current state of medical practice in China has taken a toll on providers, among whom the prevalence of workplace violence, burn-out and low job satisfaction is high.<sup>8–10</sup>

Less discussed in the literature is the impact that interpersonal dynamics may have on tension in the medical relationship. Prior quantitative studies have demonstrated the critical role of communication in the patient experience.<sup>11 12</sup> In the shared decision-making model of doctor–patient communication, the three goals of interaction are to create a good interpersonal relationship, facilitate exchange of information and include patients in decision-making.<sup>13</sup> Meeting these goals can have a positive impact on patient health outcomes, particularly with respect to psychological outcomes and quality of life as evidenced by the literature among patients with breast cancer.<sup>14</sup> Patients' perceptions of communication are an independent predictor of satisfaction.<sup>15</sup>



Poor communication plays a major role in the decision to litigate.<sup>16–18</sup> Yet there is a known gap in doctors' and patients' assessment of a doctor's communication skills whereby doctors tend to overestimate their abilities.<sup>18</sup> Even when doctors adequately perform patient-centred, coded behaviours, it is the patients' perception of the doctors' behaviour rather than the behaviours themselves that predict outcomes such as satisfaction and judgement of physicians' informativeness.<sup>19 20</sup>

More research is needed to understand the complex interactions that can either prevent or lead to conflict in the Chinese medical relationship, which necessitates triangulation of perspectives from patients, family members and doctors. In China, family members play an integral role in the medical relationship in regard to communication, decision-making and consent.<sup>2</sup> Family members may collaborate with the doctor to decide what information is passed on to the patient, yet their perspective is not well represented in the current literature.<sup>2</sup> To inform future interventions to address interpersonal factors contributing to tension in healthcare in China, we conducted a qualitative study of doctors, patients and family members in the surgical context.

## METHODS

### Study design and sampling

From June to August 2015, we conducted a qualitative study involving three groups of participants, including surgical patients, their family members and surgeons. The objective was to gain an in-depth understanding of interpersonal factors that may contribute to tension in the DPFR. The study aims were to characterise preoperative expectations for and postoperative experiences of communication of the three groups. The sample was drawn from a surgical subspecialty inpatient ward of an urban, tertiary-level teaching hospital in Hunan Province, China. We refrain from identifying the institution or department in order to protect the anonymity of the participants. We focused on surgical patients given their discrete phases of treatment that would allow us to assess patient and family member expectations for their care compared with their experiences. We limited patients to those undergoing the same minor surgical procedure because it allowed patients sufficient time, energy and mobility to complete the interviews.

We used a purposive sampling method to recruit and interview participants from June to August 2015, aiming for data saturation while working within the constraints of the study period as dictated by the lead researcher's academic timeline. Potential participants were approached face to face within their inpatient unit and interviews were conducted in a private room on the unit with a closed door including the lead researcher, one interpreter and one participant at a time. Patients and family members were recruited as a dyad to assess multiple perspectives. In cases where more than one family member accompanied the patient, the participant who was most involved

in the patient's medical care was invited to participate. Surgeons were recruited without regard to whether or not their patient(s) was also recruited. Whenever possible, we interviewed patients and family members twice: once preoperation and again postoperation to assess expectations and experiences, respectively. Surgeons were interviewed once without relation to any given patient's operation. To avoid compromising the medical relationship, we obtained permission for the patient's participation from his/her surgeon when possible. All participants gave verbal consent for their participation and received a small gift (value less than US\$5) after each interview. We opted to obtain verbal as opposed to written consent to avoid linking the participant with the research study as part of our efforts to preserve anonymity.

### Data collection

We employed in-depth, semistructured interviews with individual participants. We developed a bilingual interview guide incorporating open-ended questions aimed at assessing both the content and dynamic of doctor–patient–family communication (box 1). Follow-up questions, or 'probes,' were used to clarify and expand on concepts raised by the participants.<sup>21</sup> The interview guide was written in English, translated into Chinese by a bilingual researcher and back translated into English by a bilingual research assistant to ensure accuracy.<sup>22 23</sup> The interview guide was piloted with four participants and revised to clarify questions.

Interviews were conducted in English and Mandarin by one researcher (SX)—a female medical student who held a Bachelor of Science degree at time of the study—and one of three rotating interpreters. All of the interviewers participated in training developed by the lead researcher (SX) in conjunction with an academic faculty member who has expertise in cross-cultural research. The participants were informed of the lead researcher's background and research goals prior to consenting to participate. No relationships with patients or family members were established prior to study commencement. The lead researcher (SX) was introduced to the surgical staff at a department meeting at the beginning of the study period. Interviews were audio recorded, transcribed and translated into English by a professional translator with experience in medical translation. Field notes without identifying information were made during the interviews. Participants completed a brief demographic survey on paper after each interview. No identifying information was collected.

### Qualitative data analysis

Our three-person analysis team comprised the lead interviewer (SX), a bilingual public health researcher (LW) and a physician (EJE), with the latter two having experience in qualitative research.<sup>24–28</sup> We used inductive, semantic thematic analysis to analyse the data.<sup>29</sup> Two coders (SX, LW) established intercoder reliability through discussion and reconciled coding differences.

### Box 1 Interview questionnaire (selected grand-tour and probe questions)

Patients, family members

#### Preoperative

Tell me about your expectations for what the communication with your doctor should include during your present hospital stay.

What kind of information do you expect communications to include?

- ▶ How do you expect decisions about your care to be made?
- ▶ How much time do you expect the doctor to spend communicating with you? With your family member?
- ▶ How do you expect you and your doctor to treat each other when you communicate?

#### Postoperative

Tell me about your experience of communication with your doctor during your hospital stay.

- ▶ What kind of information did your communications include?
- ▶ How were decisions made?

How did you and your doctor treat each other when you communicated?

- ▶ Can you talk about the effectiveness of the doctor in communicating with you and your family?

Can you compare your expectations for your hospital experience with the actual experience?

If you could do so without impacting yourself or your family, what kind of feedback would you give your doctor? Specifically about communication?

#### Doctors

Tell me about your experience of communication with your patients and their family members.

- ▶ What information do your communications include?
- ▶ How are decisions about patient care made?
- ▶ Can you tell me about how informed you think your patients feel about their care throughout the hospital stay? Family members?
- ▶ How did you come to develop expectations about communication with patients and families?

How do you and your patients treat each other when you communicate? Family members?

- ▶ How much time do you spend communicating with the patient? Family members?

How satisfied do you think patients are? Family members?

What is your experience, if any, with training for communication in the healthcare setting, such as with patients, family, and providers or staff?

If you could do so without impacting yourself or your relationship with patients and family members, what kind of feedback would you give them? Specifically about communication?

Do you have any suggestions about what could be different about doctor–patient–family communication? About doctor–patient–family relationship? How would you take action on those suggestions?

A third coder (EJE) reviewed a subset of transcripts and provided input on the code structure. Through an iterative process, we identified the major themes taking into consideration the degree to which they adequately addressed the research question of factors contributing to tension in the DPFR and fulfilled the principles of internal and external homogeneity for judging category development.<sup>30</sup> It is important to note that while there were many quotations about harmony and satisfaction in the medical relationship, these concepts were not the

focus of the current analysis. We used the qualitative data software ATLAS.ti (Scientific Software Development, Berlin, Germany) to facilitate data coding and retrieval. We used the Consolidated Criteria for Reporting Qualitative Research as a guideline for reporting this work.<sup>31</sup>

### Patient and public involvement

Participants, which included patients along with their family members and doctors, became involved in the research methodology through the pilot interviews, which were used to revise the interview questions for clarity and relevance to their actual experience of seeking medical care. In addition, the individuals who served as interpreters were medical students who had an interest in the research topic as it related to their future careers as physicians and their input helped guide the revisions to the interview guide. Those individuals also had the opportunity to review the manuscript before submission.

### Role of the funding source

This work was supported by the Downs International Health Student Travel Fellowship, a graduate and professional student fellowship through the Yale School of Public Health, which provided living expenses for SX during data collection. The funding committee provided feedback on the draft study protocol and had no involvement in data collection or analysis, writing of the manuscript or decision to submit for publication. The corresponding author had full access to all the data in the study and final responsibility for the decision to submit for publication.

### RESULTS

We conducted a total of 42 interviews with 11 patients, 9 of their family members and 9 doctors. The sociodemographic characteristics of the 29 participants are listed in [tables 1 and 2](#).

Of the 11 patient participants, we conducted both a preoperative and a postoperative interview with seven participants, and only a preoperative interview with four participants due to inability to follow-up after the operation. There were three patients for whom we could not recruit a corresponding family member due to unavailability. There was one patient for whom we recruited two corresponding family members instead of one due to both being willing to participate. Of the nine family member participants, we conducted both a preoperative and a postoperative interview with six participants, only a preoperative interview with two participants and only a postoperative interview with one participant. Among patient and family member participants, the postoperative interview occurred between 2 and 8 days after the preoperative interview, with a median of 3 days. Interviews lasted between 22 and 71 min with a mean duration of 43 min.

We identified three main themes, along with several subthemes, that characterised tension in the DPFR that the study participants experienced: (1) trust degradation

**Table 1** Participant characteristics: patients and family members

Characteristic	Patients (n=11)	Family members* (n=9)
<b>Age (years)</b>		
18–25	1	2
26–35	2	1
36–45	5	2
46–55	3	4
<b>Sex</b>		
Female	10	5
Male	1	4
<b>Highest education</b>		
Elementary school	1	0
Secondary school	7	3
2–3 years' postsecondary programme	2	4
Bachelor's degree	1	2
<b>Annual income (¥)</b>		
None	4	0
<10 000	2	2
10 000–25 000	2	2
25 000–40 000	1	3
40 000–55 000	0	2
85 000–100 000	1	0
>100 000	1	0
<b>Region type of residence</b>		
Urban	6	5
Suburban	1	1
Rural	4	2
<b>Travel time to hospital (hours)</b>		
<1	4	1
1–2	0	0
2–5	7	6
>5	0	1
<b>Relation to patient†</b>		
Spouse	n/a	4
Parent	n/a	4
Girlfriend/boyfriend	n/a	1

\*One family member did not provide data on region of residence. Another family member did not provide data on travel time.

†This question was posed to participants in the family member group only.

n/a, not applicable.

between doctors and patients/families, (2) unmet expectations of patients and families for understanding the illness and powerlessness over their situation, and (3) learned helplessness of doctors.

**Table 2** Participant characteristics: doctors

Characteristic	Doctors (n=9)
<b>Age (years)</b>	
18–25	2
26–35	5
36–45	2
<b>Sex</b>	
Female	1
Male	8
<b>Educational background</b>	
Bachelor's 5-year programme	5
Master's	1
MD 8-year programme	2
MD 11-year programme	1
<b>Title*</b>	
Resident doctor	7
Professor	2
<b>Annual income (¥)†</b>	
10 000–25 000	5
40 000–55 000	1
70 000–85 000	1
>100 000	1
<b>Region type where doctor grew up</b>	
Urban	4
Suburban	1
Rural	4

\*'Resident' refers to a postgraduate doctor in a training programme lasting 3 (master's) or more (doctoral) years; 'Professor' refers to a faculty physician who has achieved a senior leadership status in the department.

†One doctor did not provide data on annual income.

### Baseline trust between patients, family members and doctors was degraded by both distrust and mistrust related to interpersonal conflict

While patients, family members and doctors recognise trust as germane to their relationships, they describe multiple factors that, although only present in a minority of cases, degraded trust. When comparing their preoperative and postoperative views, patient and family member participants by and large had tempered, stable perspectives of their doctors. Participants pointed out both positive and negative aspects of the communication with their doctors that suggest they were not mentally splitting their doctors one way or another, nor were they concretely biased to start with. In preoperative interviews, patient and family members expressed general trust in the medical profession. Likewise, the doctors believe that they have trusting, harmonious relationships with a majority of patients and family members, with only a minority of patients and family members generating problems (Doctors 2, 6, 9). Respondents' accounts of

such cases fall into two categories of trust degradation—distrust and mistrust—that we will examine in greater detail.

### Distrust

Distrust can be defined as having negative expectations and/or beliefs that the other person will not act in one's best interest.<sup>32</sup> Several doctors believe there to be a category of patients and family members who are at baseline cynical or malicious (Doctors 3, 6–7, 9). The cynicism of those patients and family members may be about doctors having ulterior motives, financial conflicts of interest and withholding treatment options. One doctor notes that this attitude can lead patients and families to escalate their concerns to senior leadership too quickly or choose a farther specialty hospital for its reputation instead of the local regional hospital (Doctor 5). One mother reveals the potential consequences of being assigned a doctor other than the one she requested, which may include lowering the threshold for a medical dispute to occur. 'If the doctor I requested made a mistake, I won't resent it... (I)f it was another doctor treating her for me... doesn't satisfy me in terms of interaction and communication, then I would definitely do something about him...' (Family member 13).

Doctors describe processes to identify and warn of distrustful patients and families. The first impression appears critical to determine if the patient is 'the type of person where he normally (doesn't) trust people easily, he definitely won't trust the doctor when he comes to the hospital' (Doctor 6). One doctor remains vigilant of patients who 'take pictures everywhere, record your audio, that type of person, you have to be careful with' (Doctor 9). This doctor also describes colleagues using social media (the WeChat app) to warn one another of certain types of troublesome patients who 'once they come here, you have to pay attention to this kind of patient' (Doctor 9).

The media plays a role in influencing the level of trust in the DPF. Doctors feel that in individual cases of medical complications, the news media publishes sensationalised and biased reports where the responsibility 'falls on the doctor first' (Doctor 6). This damages the reputation of Chinese medical professionals (Doctors 2, 6 and 9). One prominent example is the case of a newborn with Hirschsprung's disease in which the patient's provider told the media, '(e)ight cents can cure a patient with a prolapsed anus, see I can do it with 8 cents, how come it takes a few tens of thousands of dollars for other doctors to cure it?' (Doctor 9). The interviewee explains that in fact the provider in the story had used a laxative not for cure but symptomatic relief, and the media had portrayed the doctor as a trickster who 'takes advantage of everyone's lack of medical knowledge'. One patient expressed empathy for doctors in the current media environment, acknowledging that no one side alone is to blame for all medical disputes:

I just watched the news, firstly it's the doctors not having explained things clearly, the patient family member also has a lot of issues, spent so much money, yet the person was not saved, they have to let off some steam for sure...But the doctor gave medical care wholeheartedly, and worked hard... (Patient 12)

While news media may have a negative impact on the public's expectations of the medical field, one patient's experience shows how television media may have the opposite effect, that of inducing idealistic expectations.

(T)here's a TV drama called 'Young Doctors'...(A)fter I finished watching that drama, I thought wow, shouldn't doctor/patient relationship be like this? Like doctors think a little bit more for patients, then patients also change their perspective in thinking a bit for doctors... Then after I got to the hospital... it was like that saying on the internet, 'the ideal is plump and voluminous but the reality is a bag of bones'. (Patient 13)

### Mistrust

Mistrust can be defined as the destruction of a former trust that may lead to feeling betrayed.<sup>32</sup> One factor in spurring patient or family mistrust in the doctor is disingenuous or faulty behaviour, including gossiping about the patient with another doctor or making a medical error (Patient 13; Family member 13).

A second factor for spurring mistrust is the gap in knowledge and communication between the doctor and the patient/family. Doctors think that patients' and families' lack of medical expertise drives their 'high expectations regarding the prognosis' (Doctor 8). Patients and families demonstrate a reliance on the visual appearance of the patient to understand his/her condition (Family member 13; Patient 11). One family member complains about her daughter receiving much more medication compared with another patient of similar age and with an apparently larger excised tumour. 'I said how come my daughter had 7 bottles administered? I was trying to think on the positive side, the anesthetic is rid of more adequately...but she was so nauseated, the doctor said the discharge is today, so I thought is that a bit rushed?' Recognition of the gap in knowledge and communication is reflected by one doctor's comments on how a patient may appear in deceptively good condition to family members who do not have access to the entire clinical picture: '(H)e (the family member) would just see that the patient can interact with you on bed, think that they are still ok...but in reality his lab figures indicate that it's (the condition is) really bad' (Doctor 2).

Communication gaps, specifically parallel channels of communication, can also spur mistrust. Examples include when a patient asks the doctor for answers about insurance coverage that turn out to be inaccurate, or when multiple family members of the same patient get different answers from the doctor. For the latter, one doctor explains,

(A)fter they (the family members) asked they go back and communicate with each other and find contradictions again, and they can't understand, so they come back to ask again...(T)his way the doctor feels really exhausted...In the end it would lead to the lack of trust and coordination in both parties. (Doctor 8)

### The healthcare-seeking experience for patients and family members is marked by unmet expectations for understanding the illness and powerlessness over their situation

#### Unmet expectations for understanding the illness

A central idea that emerged as a communication expectation and priority for patients and family members was the need to feel holistically informed about the patient's illness. In some cases, this expectation became apparent when the participant expressed disappointment in the communication with the provider. The types of information that participants felt to be lacking include the origin of the illness such as lifestyle factors (eg, diet, exposure to chemicals in food), severity of the illness, implications of the results in lay terminology and future precautions to take (Patients 8, 13; Family members 5, 9, 11).

The dynamics of the interaction also impact patients and families, such as feeling dismissed when they sought more details from the doctor (Patient 8) or that the doctor was withholding details about the pathological diagnosis (Family members 5, 9). One family member demonstrates one's powerlessness when trying to advocate: 'Sometimes when I go and ask the doctor I don't know how to ask. Just feel that I don't understand' (Family member 9). Another family member references how the knowledge gap contributes to powerlessness: 'Because there's some professional aspect to this condition...whether he (the doctor) presented the whole situation to us comprehensively we have no way of knowing' (Family member 5). The second account suggests distrust towards the provider, which seems rooted in the gap of both knowledge and power between layman and professional.

Some patients and family members associate their unmet expectations with the large investment of personal resources in medical care. One woman who travelled 4–5 hours to the hospital said, 'In my imagination, the doctors at this place you should, because we are patients, we come to their hospital to give you money...I definitely have to get a satisfactory answer' (Patient 8).

#### Lack of a humanistic and patient-centred approach by providers and the institution can contribute to patients and family members feeling powerless

Not only do patients and family members face the challenge of understanding their illness, they do so while entering the vast and complex world of healthcare that poses its own problems. In instances of tension at the interpersonal and institutional levels, they feel a lack of concern for their plight yet powerless to change the circumstances.

At the interpersonal level, patients and family members respond negatively when they perceive the doctor to be

impatient, inattentive or formal as opposed to familial, passionate or morally driven (Patients 8, 13; Family members 7, 8). '(A)fter all we are here to see the doctor, we came for a favour, don't put us to the side with a single word...I think it should be warmer, more gentle, interact with us patiently' (Patient 8). One patient's observations of doctors' behaviour in the ward impact her judgement of them.

(W)ith the time you (the doctor) have a cup of coffee, go to the ward to check on patients, to see what needs patients have. I think this way, at least it wouldn't feel like the hospital is a cold place, feel like there's not much a sense of humanity. (Patient 13)

The patient's mother feels that to her surgeon, 'this operation is just like killing a pig, it's just making an incision and taking it out anyway, then sewing it back up... Put yourself in one's shoes and try it out with your own kid' (Family member 13). This particular patient–family member dyad was notable for expressing strong views about the DPFR throughout their interviews.

In contrast, other participants displayed an attitude of deference towards the doctor. In particular, they expressed a reluctance to interact too often with the doctor for fear of being a burden (Patients 8, 10). One family member resorts to rationalising the lack of communication, even taking on personal responsibility for communication problems.

I can only say that it doesn't seem to be ideal. Because I want to know whether her condition is actually serious or less serious? ...There shouldn't be a big issue... that's what I'm guessing, because if there were any more issues the doctor he should have let us know... At this time this was actually my problem, because we, both me and my wife don't know how to communicate. (Family member 3)

At the hospital level, patients and family members feel the lack of concern through the inconveniences of the system and their inexperience navigating it. Inconvenience centred on the unknown timelines of the hospital experience, from getting admitted—which could take days—to receiving updates on their care, to when discharge would occur (Patient 6; Family member 5). These inconveniences led one family member to feel 'anxious and worried, waiting 'til we feel this way' (Family member 5). For one family member, the long waiting period to his wife getting admitted fuelled his initial anger towards the doctor. Yet his view changes after he witnesses the reason for the long delay, highlighting his initial unrealistic expectations. 'But the people in this hospital seem to have an understanding that these few days, there really were...no beds, it's at full capacity. That's the truth... Maybe I mistakenly blamed them back then, I mean when I was angry' (Family member 3).

While inexperience underpinned the unrealistic expectations of family member 3, it also underpinned some participants' apparent *lack* of expectations about what

it means to be well informed (Patient 3; Family member 9). In turn, these individuals may lack the power to advocate for themselves. By contrast, others mentioned the importance of having a personal contact throughout the hospital stay—a hospital insider—to serve as the patient's advocate (Patient 8; Family member 7). For one family member, their family friend's high health literacy was empowering for her mother—the patient—by proxy. Yet it reduced the doctor's need for direct interactions with patients and family members.

There hasn't been much interaction with the doctor...because my mother has a friend who works in finance at this hospital...so he told my mother almost (everything), so when we saw the doctor we didn't say much...The effect that (my mother's friend) had was even greater than mine...I mean if you came to the hospital on your own you wouldn't even be able to find your way. (Family member 7)

The above excerpts demonstrate a disconnect between the expectations or hopes of patients and families and their actual experiences navigating the health system and the DPFR. While some blamed the doctor, others recognised the systemic nature of the tension, including those who adopted a deferent attitude towards doctors. We next turn to the perspective of doctors on factors that may contribute to tension.

### Societal pressures on doctors contribute to a state of learned helplessness

Doctors acknowledged the barriers they think patients and family members face in accessing healthcare, from low health literacy to an inefficient system for getting care, to the power differential between the doctor and the patient (Doctors 2, 8, 9). To one doctor who has been the family member of a patient, providers can help improve the experience by increasing their communication.

(S)o in China the vast majority of patients, (the patient's) state of mind when seeing the doctor is understandable. So the key is in you as a doctor, or a nurse, all medical staff...also have to have a communication with (the patient), tell (the patient) about the situation...as long as you fully communicated with this patient and his family member, the tension in the relationship, you can completely say that this is minimized to a very low level. (Doctor 9)

Contrary to the notion expressed by other doctors that a patient's low education level is a barrier to communication, the same doctor also believes that empathy and bedside manner are key to communicating with patients of that background.

(C)ommunicating with patients, this has nothing to do with how high or low your level of culture is... because I myself come from a rural village, I can actually communicate really easily with this kind of patient. Why is that? Because usually I have a very kind

attitude towards patients, sometimes hold his hands, pat him on the shoulder...He (the patient) can understand your situation. (Doctor 9)

Despite their good intentions, doctors felt pressured by societal challenges that rendered them unable to meet all the communication needs of patients and families. Challenges included reduced accessibility of patients to doctors and doctors struggling with system-wide barriers out of their immediate control. The doctors' experiences can be described by the psychological state of learned helplessness,<sup>33</sup> in which an individual's motivation and actions to escape an environmental stressor diminish after learning that his/her attempts have no control.

According to one doctor who spent time as a visiting surgeon in the USA,

(F)or surgeons it's all very busy...It's only that for them (American surgeons) perhaps they would be a lot more careful in terms of communicating, because I see that the time they interact at the outpatient department would be extremely long, not like us with only a few minutes...If there were only a few patients...I would speak to him about every aspect, including their life, including some sex life for women...I just adapt to this type of situation in China, satisfy patients' needs towards illnesses as much as possible, as to other needs, I don't have a way to satisfy them, because time is limited, that's the only way it can be. (Doctor 10)

This doctor, who is a professor, displays learned helplessness towards the demands of the job despite being in a relative position of power and seniority. Other doctors expressed a sense of insecurity and helplessness as workers within a healthcare system—both locally and nationally—that lacks the robust infrastructure to protect and support doctors (Doctors 2, 4, 7). For instance, one young doctor cites the lack of a 'standardized way' to resolve conflicts with patients, leading doctors to 'sometimes speak in an extreme manner' after being personally attacked (Doctor 4). Other broader pressures included insufficient health literacy of the general public leading to unnecessary overcrowding of city hospitals (Doctor 5) and the expectation of doctors to counsel patients about insurance issues despite lack of training (Doctor 8).

Doctors also expressed a substantial fear of liability for treatment complications that appeared to direct their communication and behaviours towards minimisation of responsibility (Doctors 2, 3, 5, 6, 9, 10). According to one doctor, this meant that 'doctors would perform all the examinations that don't necessarily have to be done', which in turn may lead patients to become suspicious of overtreatment and overpayment (Doctor 6). Another risk prevention strategy was the use of the hospital Medical Services Department (MSD), which was equipped with audiovisual recording capabilities. According to one doctor, 'Based on our hospital's experience, the patients who have conversations at the medical service

department, so far, have not had disputes together... (F) or this (distrustful) type of patient, before the operation, we definitely go to the medical services department to speak, no matter if his operation is major or minor' (Doctor 6). To another doctor, the MSD also served as an important symbol in the medical relationship: 'If the patient and family member go there, he might think that the hospital values and respects him, he also think that this situation might be really serious, so he would be psychologically prepared' (Doctor 6).

Apart from setting expectations about the risk of complications, doctors also found setting expectations about the family's financial 'investment' in medical care to be important to the medical relationship (Doctors 2, 5). According to one doctor, 'I'll tell her (the patient) you spend this much, and it can achieve a result of this magnitude...but not to make her think that everything can be solved if she's willing to spend the money' (Doctor 5). To another doctor, satisfaction is focused on the family member 'because after all the patient's family member pays the fees mostly, if you don't explain it to them clearly, they won't be willing to continue the rest of the treatment' (Doctor 2).

The opposing yet optimistic viewpoint of one professor raises the possibility that learned helplessness could be a function of experience level. He argues for timely communication and initiative, along with empathy, to empower doctors in difficult situations and mend severances in the DPFR.

(E)ven for the best of doctors there would be these complications...(T)he key is how much the patient understands you at this point in time...If there is a situation...I have to immediately, actively show that I really care about you, I'd actively have some communication with you, take you to do some tests, see what your situation is like. This is actually also to prevent medical disputes...Most patients are like oh, the doctor does this handling for me, he would understand too. (Doctor 9)

The doctor shifts the source of tension from the external, systemic challenges detailed by other doctors to the interpersonal dynamics between the provider and the patient/family.

Taken together, the views among doctors on tension are in line with those of patients and families expressed in the second theme. That is, tension can arise from all levels of the healthcare-seeking process, from the interpersonal to systemic. As such, efforts to prevent and alleviate tension should mirror this complexity by taking a multilevel approach.

## DISCUSSION

In this qualitative study, we identified three emergent themes to characterise interpersonal factors contributing to tension in the Chinese DPFR in a surgical setting. While the focus of interview questions was on communication,

participants' responses acknowledge the broader context of the healthcare system as intimately tied to communication capacity and ultimately tension. First, while a baseline level of trust exists in the medical relationship, distrust and mistrust are perceived as afflicting a minority of medical encounters and are caused by multiple factors. Notable factors are doctors' collective perception—influenced by the media—of malicious personalities among potential patients/families; patients/families witnessing unprofessional behaviour of health professionals; and patients/families facing communication and knowledge gaps. Second, for patients and families, tension arose from unmet expectations for how informed they would be about the medical condition, as well as feeling powerless over their situation when there is a lack of humanistic and patient-oriented care. Third, working conditions hinder doctors from enacting their good intentions and goals for communication, and the negative climate towards them fosters fear and avoidance of responsibility.

In an essay calling for a trust-oriented bioethics to understand the modern Chinese patient–physician relationship, bioethicist Yunxiang Yan argues that a weakness of the current literature on doctor–patient relations in China has been the 'stereotypical and static assessment of pervasive patient distrust in physicians'.<sup>32</sup> A strength of our study is the inductive qualitative approach that has uncovered a more nuanced view of the expectations, concerns and interactions of patients, family members and doctors, and how system issues constrain their well-being.

While patients are taken as the default endowers of trust, our data in the first theme from doctors show prominent distrust also exists in the other direction. The doctors regularly practised vigilance and defensive medicine with behaviours like recording conversations and overtreatment. Contrary to Yan's claim that medical professionals are to blame for poor communication due to their 'failure to recognize the patients' rights and dignity', doctors in our study do not fulfil the paternalistic stereotype. Rather they acknowledged the importance of ensuring patients and family members are informed, with some doctors expressing empathy with their plight in the interviews. An additional motive for doctors to communicate may be fear of liability in the current environment.

Our data agree with a large qualitative study of patients, families and providers in Guangdong Province by Tucker *et al*<sup>6</sup> that found that 'knowledge asymmetry' can lead to conflict and serves as one of the origins of mistrust. The authors found that mistrust is also fuelled by patients giving cash gifts to doctors that unrealistically drives up expectations. Yet our findings suggest that the whole healthcare-seeking process for patients and family members is a high-stakes investment that in itself drives up expectations regardless of extra efforts.

Unlike in the Western medical context where shared decision-making, which takes a patient-centred approach, is the dominant model for doctor–patient communication,<sup>13</sup> there currently exists no such dominant model for Asian contexts.<sup>34</sup> The second theme of our findings aligns



**Table 3** Recommendations to address tension in the doctor–patient–family relationship

Theme	Problem	Recommendations
(1) Degradation of trust.	Media misrepresentation.	▶ Public awareness campaign supported/led by doctors to demystify rumours.
	Knowledge disparity.	▶ Given patient/family reliance on visual cues, visual aids can be developed to assist doctors in communicating with their patients, especially in cases of abnormal laboratory results. <sup>44</sup> ▶ Reviewing imaging results with the patient/family.
	Communication gaps.	▶ Family meetings to promote consistent, timely and thorough communication.
(2) Healthcare-seeking experience for patients and family members was marked by unmet expectations for achieving a basic understanding as well as powerlessness over their situation.	Inexperience and inconvenience associated with seeking healthcare.	▶ Appointment policy and procedures for outpatient evaluations. <sup>45</sup> – Available via smartphone, online and telephone channels. ▶ Patient navigators throughout the hospital. ▶ Intraoperative communication system for family members to notify them of patient's status in the queue and reduce anxiety about unexpected delays. <sup>7</sup> ▶ Welcome packet to all inpatients that addresses FAQs about navigating the hospital, sets timeline expectations and includes a clear map of hospital departments and their purposes.
	Patients and family members feel ill equipped to communicate effectively with the doctor.	▶ Promote patient and family-centred care <sup>34</sup> . – Healthcare providers elicit goals and expectations of patients/families on admission to help set realistic expectations. <sup>14</sup> – Providers participate in communication training on techniques like summarising and eliciting questions/illness beliefs to address gaps in understanding between them and the patient/family. <sup>46 47</sup> – Provide patients/families with opportunities to reflect on and write down their concerns in advance. <sup>48 49</sup> – Provide patients with verbal and written discharge materials to assist with self-management <sup>50</sup> and continuity of care. <sup>51–53</sup>
(3) Societal pressures on doctors contributed to learned helplessness.	Doctors bear the responsibility of helping patients with insurance coverage issues.	▶ Designate separate personnel responsible for handling admissions and insurance matters. ▶ Leverage expertise of graphic designers to develop patient/family materials addressing their concerns about the insurance claims process; make these accessible in various forms (eg, online, printed handouts and posters). <sup>54</sup> ▶ Provide policy briefs to doctors regarding region-specific changes to insurance, with educational formats including grand rounds style, weekly didactic conferences, staff retreat, and so on.
	Lack of a standardised way of managing disputes between doctors and patients/families.	▶ Implement formal policies and procedures to handle disputes; designate a central administrator to serve as a resource to providers. ▶ Conduct de-escalation training for all hospital staff. <sup>55</sup>

FAQs, frequently asked questions.

with studies of patients in Asian countries that indicate an increasing preference towards patient-centred care.<sup>35–37</sup> While patients and family members expressed to the researchers a desire for humanistic care in the medical system, the same individuals also demonstrated deferent attitudes towards authority, such as not wanting to burden the doctors or feeling inexperienced at asking questions, that may inhibit their ability to advocate for the kind of care they seek. This apparent internal conflict some patients and family members face may be rooted in the traditional patriarchal norms and historically authoritative status of doctors in China,<sup>2</sup> which underprepares them for patient-centred care.<sup>34 36</sup> Yet the steep power differential at play

signals that the Chinese medical community needs to innovate within and beyond the doctor–patient–family triad in order to best address patient and family needs for humanistic, patient-centred care.

Our data from patients and families suggest that having an insider acquaintance and communication liaison is perceived as important—perhaps even essential—to having a better healthcare experience, yet it is not a universal resource. In a study in Zhejiang Province of the culture of *guanxi*—whereby beneficial personal relationships are secured via the exchange of favours—the authors found that 65% of surveyed doctors reported ‘better dedication when patients were somehow connected’.<sup>38</sup>

In Heilongjiang Province, researchers found that satisfaction with the hospital inpatient care correlated with insurance benefit status.<sup>39</sup> Reforms at the hospital and systems level are urgently needed to promote healthcare justice such that all patients and families can have access to a positive healthcare experience.

In the third theme, we characterise the experience of Chinese doctors under societal pressures as learned helplessness, yet there are few studies of this phenomenon among physicians. In an article on the modern generation of American medical graduates, Bond argues that young doctors are wholly unequipped to thrive in the complex healthcare system that insufficiently rewards them, putting them at high risk for learned helplessness.<sup>40</sup> Doctors in our study seemed helpless to enact positive change for themselves and their patients, deferring that responsibility to the government or media.

Additionally, findings from doctors in our sample suggest that they may be experiencing a state of burn-out, defined in three dimensions as emotional exhaustion, cynicism or depersonalisation, and reduced personal accomplishment.<sup>41</sup> The first two dimensions are evident from doctors' expressions of being unable to satisfy the recognised needs of patients and family members and having negative bias and distrust towards some of them. In fact, signs of the institutionalisation of cynicism include doctors screening patients and families for signs of trouble and conducting conversations in a recording department for those deemed risky. Our findings are consistent with other studies of burn-out among Chinese physicians.<sup>42 43</sup>

Limitations of our study include the inability to recruit a complete patient–family dyad in all cases or both preoperative and postoperative interviews in all cases. Reasons for these gaps included a patient being unaccompanied at the time of recruitment in the preoperative phase; a family member being preoccupied by the operation and/or patient's condition and thus declining the interview; participants declining a postoperative interview due to the early discharge protocol and need to leave on time to travel long distances home. We thus may have missed additional perspectives that could have enriched our findings. As with any cross-cultural research there is the possibility of meaning being lost in translation. Additionally, we did not have the opportunity to perform participant checking by bringing the findings back to the original participants for their feedback. This can be particularly challenging when resident physicians continue moving forward in their training and patients and families return to homes far from the study site. Finally, we remind the reader that our research question was oriented towards understanding tension in the DPFR. As such, the findings reported here are not meant to represent the DPFR in a holistic manner and should not be used to judge all doctors in that capacity. Our entire data set contained many examples of harmony, satisfaction and trust between the three groups, but these concepts were not the main focus of the current analysis.

Our findings highlight several opportunities for intervention to improve the DPFR in the surgical setting (table 3). Specifically, our data highlight a need to promote trust, optimise expectations of patients and family members for information exchange and address the high-pressure work environment for doctors that motivates fear and actions to avoid responsibility. Further research is needed to characterise the experiences of health professionals, patients and families in other medical specialties and regions, as well as the effectiveness of interventions and reforms on tension or trust in the DPFR. Action on the part of the local health administrators as well as the Chinese government is urgently needed to improve access to and quality of medical encounters for patients and families, and to support the careers of the nation's medical professionals.

**Acknowledgements** We thank the medical students who assisted with conducting the interviews. We thank Rosana Gonzalez Colaso for sharing her expertise in cross-cultural research. We thank the nurses, doctors and scholars who assisted with the study; and the staff at Yale-China Association, Yale School of Medicine Office of International Medical Student Education and Office of Student Research. We thank the reviewers for their constructive feedback on the manuscript.

**Contributors** SX and KK secured funding support for the study. SX contributed to all parts of the research including literature search, study design, data collection, data analysis and interpretation, and writing and editing of the manuscript. LW contributed to data analysis and interpretation, writing and editing. KK contributed to literature search, study design and manuscript editing. EJE contributed to the literature search, study design, data analysis and interpretation, manuscript writing and editing.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

**Patient consent for publication** Not required.

**Ethics approval** The study was reviewed by the Human Subjects Committee at Yale University (HSC No 1505015787) and deemed exempt from full Institutional Review Board (IRB) review under 45 CFR 46.101(b)(2). The study was approved by the IRB at the study site institution, whose name has been omitted at the request of the study site collaborator in order to preserve the anonymity of participants.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** The deidentified participant data are available upon reasonable request from the corresponding author (SX, <https://orcid.org/0000-0002-4351-6838>).

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

#### ORCID iD

Siyu Xiao <http://orcid.org/0000-0002-4351-6838>

#### REFERENCES

- 1 Blumenthal D, Hsiao W. Privatization and its discontents—the evolving Chinese health care system. *N Engl J Med* 2005;353:1165–70.
- 2 Cong Y. Doctor-family-patient relationship: the Chinese paradigm of informed consent. *J Med Philos* 2004;29:149–78.

- 3 Bai J. Large hospitals should not be a “pumper”. People’s daily (Beijing), 2019. Available: <http://opinion.people.com.cn/n1/2016/0729/c1003-28593378.html>
- 4 Beam C. *Under the knife: why Chinese patients are turning against their doctors. the new Yorker*. New York: Condé Nast, 2014.
- 5 Violence against doctors: why China? why now? what next? *Lancet* 2014;383:1013.
- 6 Tucker JD, Cheng Y, Wong B, *et al.* Patient–physician mistrust and violence against physicians in Guangdong Province, China: a qualitative study. *BMJ Open* 2015;5:e008221.
- 7 Zhou P, Grady SC. Three modes of power operation: understanding doctor–patient conflicts in China’s Hospital therapeutic landscapes. *Health Place* 2016;42:137–47.
- 8 Medical environment numbers & statistics: harmony network, 2009. Available: <https://sites.google.com/site/2009621/yiliaohuanjing-shuzi>
- 9 Wu D, Wang Y, Lam KF, *et al.* Health system reforms, violence against doctors and job satisfaction in the medical profession: a cross-sectional survey in Zhejiang Province, eastern China. *BMJ Open* 2014;4:e006431.
- 10 Sun T, Gao L, Li F, *et al.* Workplace violence, psychological stress, sleep quality and subjective health in Chinese doctors: a large cross-sectional study. *BMJ Open* 2017;7:e017182.
- 11 Cao W, Qi X, Yao T, *et al.* How doctors communicate the initial diagnosis of cancer matters: cancer disclosure and its relationship with patients’ hope and trust. *Psychooncology* 2017;26:640–8.
- 12 Tang W-R, Hong J-H, Rau K-M, *et al.* Truth telling in Taiwanese cancer care: patients’ and families’ preferences and their experiences of doctors’ practices. *Psychooncology* 2017;26:999–1005.
- 13 Ong LM, de Haes JC, Hoos AM, *et al.* Doctor–patient communication: a review of the literature. *Soc Sci Med* 1995;40:903–18.
- 14 Arora NK. Interacting with cancer patients: the significance of physicians’ communication behavior. *Soc Sci Med* 2003;57:791–806.
- 15 Little P, Everitt H, Williamson I, *et al.* Observational study of effect of patient centredness and positive approach on outcomes of general practice consultations. *BMJ* 2001;323:908–11.
- 16 Beckman HB, Markakis KM, Suchman AL, *et al.* The doctor–patient relationship and malpractice: lessons from plaintiff depositions. *Arch Intern Med* 1994;154:1365–70.
- 17 Mouton J, Gauthé R, Ould-Slimane M, *et al.* Litigation in orthopedic surgery: what can we do to prevent it? Systematic analysis of 126 legal actions involving four university hospitals in France. *Orthopaedics & Traumatology: Surgery & Research* 2018;104:5–9.
- 18 Ha JF, Longnecker N. Doctor–patient communication: a review. *Chfnsner J* 2010;10:38–43.
- 19 Blanchard CG, Labrecque MS, Ruckdeschel JC, *et al.* Physician behaviors, patient perceptions, and patient characteristics as predictors of satisfaction of hospitalized adult cancer patients. *Cancer* 1990;65:186–92.
- 20 Street RL. Analyzing communication in medical consultations. do behavioral measures correspond to patients’ perceptions? *Med Care* 1992;30:976–88.
- 21 Curry LA, Nembhard IM, Bradley EH. Qualitative and mixed methods provide unique contributions to outcomes research. *Circulation* 2009;119:1442–52.
- 22 Brislin RW. Back-translation for cross-cultural research. *J Cross Cult Psychol* 1970;1:185–216.
- 23 Chapman DW, Carter JF. Translation procedures for the cross cultural use of measurement instruments. *Educ Eval Policy Anal* 1979;1:71–6.
- 24 Camenga DR, Hieftje KD, Fiellin LE, *et al.* The use of message framing to promote sexual risk reduction in young adolescents: a pilot exploratory study. *Health Educ Res* 2014;29:360–6.
- 25 Edelman EJ, Cole CA, Richardson W, *et al.* Opportunities for improving partner notification for HIV: results from a community-based participatory research study. *AIDS Behav* 2014;18:1888–97.
- 26 Edelman EJ, Cole CA, Richardson W, *et al.* Stigma, substance use and sexual risk behaviors among HIV-infected men who have sex with men: a qualitative study. *Prev Med Rep* 2016;3:296–302.
- 27 Edelman EJ, Hansen NB, Cutter CJ, *et al.* Implementation of integrated stepped care for unhealthy alcohol use in HIV clinics. *Addict Sci Clin Pract* 2016;11:1.
- 28 Chen W-T, Guthrie B, Shiu C-S, *et al.* Revising the American DREAM: how Asian immigrants adjust after an HIV diagnosis. *J Adv Nurs* 2015;71:1914–25.
- 29 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
- 30 Patton MQ. *Qualitative research and evaluation methods*. 3 ed. Thousand Oaks, Calif: Sage Publications, 2001.
- 31 Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–57.
- 32 Yan Y. The ethics and politics of patient–physician mistrust in contemporary China. *Dev World Bioeth* 2018;18:7–15.
- 33 Abramson LY, Seligman ME, Teasdale JD. Learned helplessness in humans: critique and reformulation. *J Abnorm Psychol* 1978;87:49–74.
- 34 Pun JKH, Chan EA, Wang S, *et al.* Health professional–patient communication practices in East Asia: an integrative review of an emerging field of research and practice in Hong Kong, South Korea, Japan, Taiwan, and mainland China. *Patient Educ Couns* 2018;101:1193–206.
- 35 Claramita M, Nugraheni MDF, van Dalen J, *et al.* Doctor–Patient communication in Southeast Asia: a different culture? *Adv Health Sci Educ Theory Pract* 2013;18:15–31.
- 36 Ting X, Yong B, Yin L, *et al.* Patient perception and the barriers to practicing patient-centered communication: a survey and in-depth interview of Chinese patients and physicians. *Patient Educ Couns* 2016;99:364–9.
- 37 Bao Y, Fan G, Zou D, *et al.* Patient experience with outpatient encounters at public hospitals in Shanghai: examining different aspects of physician services and implications of overcrowding. *PLoS One* 2017;12:e0171684.
- 38 Wu D, Lam TP, Lam KF, *et al.* Challenges to healthcare reform in China: profit-oriented medical practices, patients’ choice of care and guanxi culture in Zhejiang Province. *Health Policy Plan* 2017;32:1241–7.
- 39 Shan L, Li Y, Ding D, *et al.* Patient satisfaction with hospital inpatient care: effects of trust, medical insurance and perceived quality of care. *PLoS One* 2016;11:e0164366.
- 40 Bond C. The training of the “helpless” physician. *MedGenMed* 2007;9:47.
- 41 Maslach C, Jackson SE. The measurement of experienced burnout. *J Organ Behav* 1981;2:99–113.
- 42 Wen J, Cheng Y, Hu X, *et al.* Workload, burnout, and medical mistakes among physicians in China: a cross-sectional study. *Biosci Trends* 2016;10:27–33.
- 43 Wu H, Liu L, Wang Y, *et al.* Factors associated with burnout among Chinese hospital doctors: a cross-sectional study. *BMC Public Health* 2013;13:786.
- 44 Garcia-Retamero R, Galesic M. Who profits from visual aids: overcoming challenges in people’s understanding of risks [corrected]. *Soc Sci Med* 2010;70:1019–25.
- 45 Xie W, Yang X, Cao X, *et al.* Effects of a comprehensive reservation service for non-emergency registration on appointment registration rate, patient waiting time, patient satisfaction and outpatient volume in a tertiary hospital in China. *BMC Health Serv Res* 2019;19:782.
- 46 Levinson W, Lesser CS, Epstein RM. Developing physician communication skills for patient-centered care. *Health Aff* 2010;29:1310–8.
- 47 Rao JK, Anderson LA, Inui TS, *et al.* Communication interventions make a difference in conversations between physicians and patients: a systematic review of the evidence. *Med Care* 2007;45:340–9.
- 48 Cegala DJ, McClure L, Marinelli TM, *et al.* The effects of communication skills training on patients’ participation during medical interviews. *Patient Educ Couns* 2000;41:209–22.
- 49 Amundsen A, Bergvik S, Butow P, *et al.* Supporting doctor–patient communication: providing a question prompt list and audio recording of the consultation as communication AIDS to outpatients in a cancer clinic. *Patient Educ Couns* 2018;101:1594–600.
- 50 Kang E, Gillespie BM, Tobiano G, *et al.* Discharge education delivered to general surgical patients in their management of recovery post discharge: a systematic mixed studies review. *Int J Nurs Stud* 2018;87:1–13.
- 51 Stein R, Neufeld D, Shwartz I, *et al.* Assessment of surgical discharge summaries and evaluation of a new quality improvement model. *Isr Med Assoc J* 2014;16:714–7.
- 52 Dash I, Pickering GT. Improving post-operative communication between primary and secondary care: the wound closure information card. *Prim Health Care Res Dev* 2017;18:92–6.
- 53 Shivji FS, Ramoutar DN, Bailey C, *et al.* Improving communication with primary care to ensure patient safety post-hospital discharge. *Br J Hosp Med* 2015;76:46–9.
- 54 Politi MC, Kaphingst KA, Liu JE, *et al.* A randomized trial examining three strategies for supporting health insurance decisions among the uninsured. *Med Decis Making* 2016;36:911–22.
- 55 Forbat L, Barclay S. Reducing healthcare conflict: outcomes from using the conflict management framework. *Arch Dis Child* 2019;104:328–32.