

Doctors as patients:

a systematic review of doctors' health access and the barriers they experience

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ABSTRACT

Background

The need to improve doctors' access to health care by reducing the barriers they experience has been regularly described in the literature, yet the barriers experienced are not well defined, despite the volume of expert opinion in this area.

Aim

To define what is known about doctors' access to health care from the data within the current literature.

Design of study

A systematic review of studies of doctors' health access.

Method

A systematic search of MEDLINE® and CINAHL, supplemented by citation searches and searches of the grey literature, identified both quantitative and qualitative studies. Two reviewers used specific criteria for inclusion of studies and quality assessment. The data were tabulated and analysed.

Results

Twenty-six articles met the inclusion criteria. The paucity of data and the overall poor quality of those data are highlighted. Despite this, many doctors appear to have a GP, but this does not ensure adequate health access. Systemic barriers to healthcare access (long hours and cultural issues) are more significant than individual barriers.

Conclusion

Expert opinion in this field is supported by poor-quality data. The current knowledge reveals important similarities between doctors and the general population in their healthcare access, especially with mental health issues. Understanding this may help the medical profession to respond to these issues of 'doctors' health' more effectively.

Keywords

attitude of health personnel; health behaviour; physician health; systematic review.

INTRODUCTION

Doctors are often said to be healthier than the general population because their standard mortality rate is lower.¹ However, doctors have similar rates of chronic illness and have the same preventive health needs as the general community.² The literature on doctors' health refers to the need to improve doctors' access to health care by reducing the barriers they experience.³⁻⁵ This can only be achieved if current understanding of doctors' health-access behaviours and the barriers they experience in accessing this care is adequately informed. As a first step, this article presents a systematic review of the evidence associated with doctors' health-access behaviours and the barriers they experience.

METHOD

Literature search

A systematic search of the literature used the electronic databases MEDLINE® (1966–2007) and CINAHL (1982–2007). Keywords were identified through an iterative search strategy, including further search terms as relevant articles were found. Articles were also identified by hand searching citation lists and grey literature. Searches were restricted to

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How this fits in

This review presents the current data on doctors' healthcare access. Recognising gaps in knowledge will help focus future research projects. Comparison of the health-access behaviours of doctors with those of the general community is encouraged.

articles whose full texts were available in English.

The final search strategy for MEDLINE® was: ((Physicians/ OR Physicians, Family/ OR Physician Impairment/ OR Internal Medicine/ OR Family Practice/) AND (Self Care/ OR Self Medication/)) OR ((Physicians/ OR Physicians, Family/ OR Physician Impairment/ OR Internal Medicine/ OR Family Practice/) AND (Health Behavior/)).

A similar strategy was used for CINAHL.

Inclusion criteria and validity assessment

- All articles needed to record some information related to health-access behaviour of doctors (for example, whether they had registered or consulted a doctor and the quality of the service they received) and/or a description of barriers that the doctors had experienced while accessing health care.

- All articles collected qualitative or quantitative data from medical practitioners (not students or allied health professionals) directly, through a survey, focus group, interview, or mixed methods (that is, both qualitative and quantitative methods).

Assessment of quality

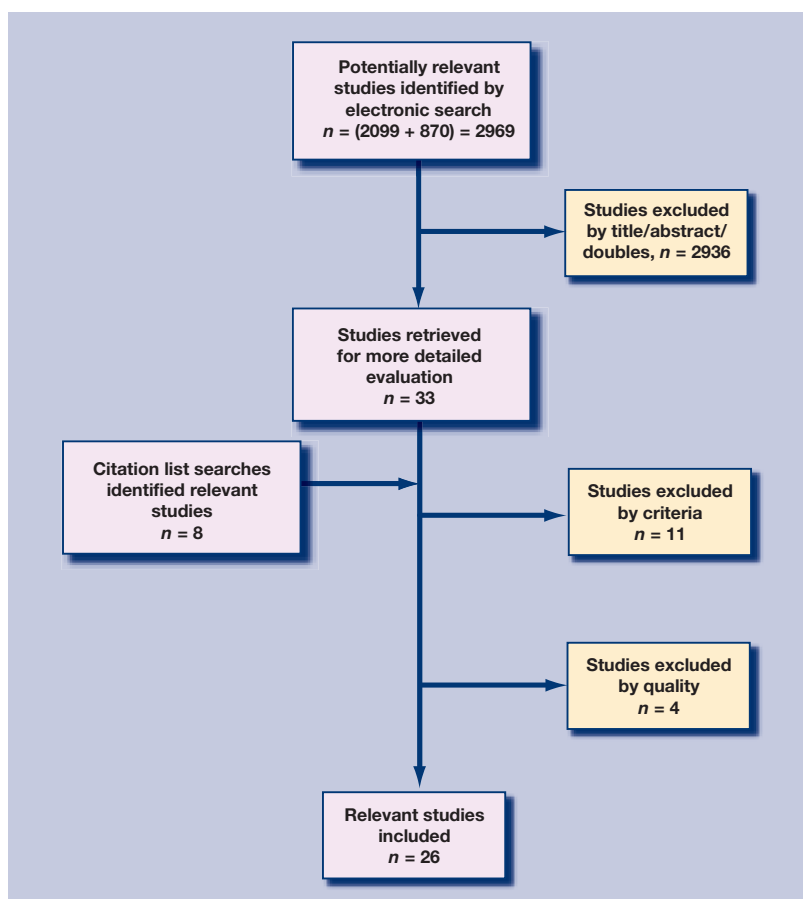
An assessment tool was used to ensure studies were assessed in terms of their internal validity (identification of bias and confounding factors),⁶ reporting quality, and reliability (external validity).⁷ Criteria for questionnaire-based studies included having a response rate $\geq 40\%$. Although this is relatively low, this response rate was selected for this systematic review because medical practitioners are known to be difficult to survey.⁸⁻¹⁰

Assessments for criteria and quality were made by two authors. Disagreements on inclusion were resolved by consensus.

Data abstraction and synthesis

Quantitative results were tabulated. Dominant themes were determined from the qualitative comments, and these were categorised and tabulated. Statistical meta-analysis was inappropriate because of the heterogeneity of study populations, methods, and outcome measures.

Figure 1. Flow chart of inclusion/exclusion of studies.



RESULTS

Searches of the electronic databases and citations lists led to the inclusion of 26 articles (Figure 1) for this systematic review. Twenty-three surveys of medical practitioners were found (six of which also reported some responders' comments), and three qualitative studies. The details of these are set out in Appendices 1 and 2. A list of excluded papers and reasons for exclusion is available.

The data were gathered from many countries including seven from the UK, six from the US, five from Australia, two from Ireland, and one each from Canada, New Zealand, Israel, Finland, Norway, and Switzerland. Most studies used registration lists from medical boards or colleges to randomly select participants. Nine studies focused on GPs, and five focused on junior doctors. Most studies were postal surveys, although the qualitative studies relied on focus groups and interviews (Appendices 1 and 2).

Data quality

The three qualitative studies were rated as high-quality studies meeting at least six of the seven quality criteria.⁶ The quality of the surveys, however, was affected by several factors: in the majority of cases insufficient information was available to assess the questionnaire form (given to the physicians), instructions, administration, and

previous piloting of the measures used.⁷ Low response rates, retrospective self-reporting (without objective verification of data), and incomplete data available on non-responders also affected quality. Although some studies collected demographic data of the non-responders, it was not possible to obtain information regarding their healthcare access.⁸

Do doctors have their own doctor?

Table 1 shows that between one-fifth and nearly all responders were registered with a GP. This disparity reflects the different national health systems associated with each study. Some systems require compulsory patient registration with a GP, for example the NHS of the UK. Therefore, studies from the UK would be expected to have a greater than 90% registration (Table 1). The study populations also varied with regard to the specialties, age, and sex of the medical practitioners surveyed, and these factors may account for the differing responses reported. Choosing a GP is a complex process, often fraught with difficulty for doctors.¹¹⁻¹⁴ Female doctors were more likely to describe difficulty with this,¹⁰ but were more likely to find an independent doctor.¹⁵

Many doctors do not choose a GP who is independent (that is someone who is not a close friend or relative, including spouse, and who is not a practice partner) (Table 1). Regardless of whether or not they have a GP, most doctors are satisfied with their health care.¹⁰

Do doctors go to the doctor?

Some studies described how often doctors consulted other doctors, either formally or informally. This review used Pullen's definitions of formal and informal consultations.⁹ That is 'in a formal consultation, the doctor sees his or her colleague as a usual patient would. An informal consultation may occur in passing; for example, as a "corridor consultation".⁹ Between 24% and 87% of responders stated they had consulted a doctor within the last year (Table 1). The higher rates probably included informal consultations with colleagues, although this was not clearly stated in some studies. Informal or 'corridor' consultations appear to be more common than formal care.^{16,17} Over one-third of doctors used corridor consultations.^{17,18} Even when the consultation was

Table 1. Healthcare access.

Author(s) and year	Registered with a doctor, %	Registered with partner, %	Registered with friend, %	Registered with family or spouse, %	Considers self as own doctor, %	Had provided self-treatment, %	Had within last year, %
Allibone <i>et al</i> , 1981 ²³	93	70 ^a				33 ^b	
Glanz <i>et al</i> , 1982 ⁵²							24
Kahn <i>et al</i> , 1988 ⁸	44						76 ^c
Rennert <i>et al</i> , 1990 ¹⁸	33					46	
Richards, 1989 ¹³	96	28			0.7		25
Bortz, 1992 ⁵³							82
Chambers and Belcher, 1992 ¹⁵	100	40		20.2	24		
Pullen <i>et al</i> , 1995 ⁹	42						
Baldwin <i>et al</i> , 1997 ¹⁶	66					66	
Clarke <i>et al</i> , 1998 ²⁰	74	17	33	6		99	
Wines <i>et al</i> , 1998 ⁵⁴	42						37
Forsythe <i>et al</i> , 1999 ²⁵	96	26 ^a		1			42
McCall <i>et al</i> , 1999 ²⁶	43	13			5	>90	87
Richards, 1999 ³¹	71						
Gross <i>et al</i> , 2000 ¹⁹	66	18			7		
Rosen <i>et al</i> , 2000 ³²	46	2					54
Töyry <i>et al</i> , 2000 ⁵⁵							57
Shadbolt, 2002 ²⁴						50	
Rosvold and Bjertness, 2002 ¹²						75 ^b	68 ^b
Campbell and Delva, 2003 ¹⁷	67						66 ^c
Davidson and Schattner, 2003 ¹⁰	55						n/a
Uallachain 2007 ²¹						92	25
Schneider <i>et al</i> , 2007 ³³	21					58 ^d	53

^aData only available for GPs. ^bWithin the last 3 years. ^cWithin the last 2 years. ^dWithin the last week.

Table 2. Barriers to seeking health care.

Category	Subcategory	Barrier described	Reference(s) ^a
Patient	Embarrassment	Exposing self to peers personally and emotionally	9-11, 24
		Feel a failure as should be able to cope	11, 13, 14
		Worried illness may be trivial	10-14, 24
		Worried self-diagnosis or treatment might be wrong	13
		Worried about imposing on another busy doctor	13, 20, 22, 24
		Mental health issues	9-13, 16, 24
	Time	Time	10, 12, 13, 17, 20, 22, 24, 32
	Cost	Fees	18, 20, 31, 32
		Inadequate insurance (health, disability, business)	14, 23
	Personality	Locus of control	19, 26
	Specialty	Specialty practice of physician	19
	Who	Not easy to find the right doctor	10-14, 24
		Lack of regular source of care (GP)	12, 13, 19
Already satisfied	Already satisfied with own care (no need for GP)	10, 12, 13, 17	
Fear	Loss of control	11, 13, 22	
Awareness of implications	Getting future insurance	11, 13	
	Awareness of burden on colleagues and patients	11, 13, 14, 22	
Knowledge	Awareness of limitations of the medical system	11-13, 18	
	Easy to justify symptoms as insignificant	11-13, 22	
Provider	Confidentiality	General concerns	8, 10, 11, 17, 23
		Doctors might discuss care with peers	8, 19
		Staff might find out personal information	13
		Workplace may receive confidential information	13
	Quality of care	Poor medical care	10, 11, 13, 20, 22, 25
	Failure to be treated doctor-patient like a normal patient	11, 22, 31, 32	
	Failure to recognise specific needs of doctor-patient	11, 13	
System	Culture	Pressure from doctors to be healthy	10-14, 25, 32
		Pressure from community to be healthy	11
		Self-treatment OK	10, 22
		Partners/peers tend not to intervene	11-14, 22
		Lack of normal cues to health seeking	11, 14, 24
	Structure	No locums	13, 14, 20, 25
		Long hours of duty	11, 13, 24, 32
	Lack of medical training on seeking health care as a doctor and treating doctors	12, 13, 25	

^aArticles that describe the barrier listed.

formal, the doctor may not have consulted their usual doctor.

Two studies found that doctors with a GP were more likely to have received preventive health care;^{8,19} however, having a GP does not always ensure better health access for all medical conditions. Hypothetical vignettes showed that having a GP predicted an appropriate treatment choice in relation to physical health, but not for mental health issues.^{10,17} Doctors with a chronic illness were less likely to access formal health care,¹⁸ even though they may be more likely to have a GP,^{17,19} although the data are conflicting.¹⁸

A sex difference in relation to consultation with a doctor was also evident. Female doctors consult other physicians more frequently than male doctors,^{9,12,20,21} although this may reflect a tendency to access more informal care, especially if they had a medical spouse.¹²

Self-treatment

Between one-quarter and almost all doctors reported 'self-treatment' (Table 1). Most doctors felt that it was acceptable to self-treat, especially for minor illnesses.^{10,22} The variation in these reported percentages of self-treatment may lie in the definition of what constitutes 'self-treatment'. This was not clearly defined in the majority of the studies. Self-treatment was more common for GPs than specialists.^{9,23} Rosvold and Bjertness reported that even if a doctor had consulted another doctor within the past 3 years (68%), 76% still self-treated.¹²

Barriers

Table 2 lists the barriers reported by doctors. To facilitate interpretation, these barriers are grouped into categories and subcategories as described in Table 2. The 'Patient' category reflects the barriers

specifically related to the doctor–patient seeking health care. The ‘Provider’ category details the barriers predominantly under the control of the provider of the medical care. The ‘System’ category reflects barriers within the medical system itself. Although these system barriers may be expressed in the individual behaviours of a patient or provider, they are barriers that are difficult for any individual to alter without the system itself changing.

Patient category

Embarrassment. Embarrassment was a recurrent theme identified in a number of articles. Davidson and Schattner found that 71% of doctors described themselves as embarrassed when seeing another doctor.¹⁰ However, the term ‘embarrassment’ is used by doctors to reflect many different experiences. McKeivitt and Morgan clarified this, explaining that some doctors used it to refer to their general discomfort with the patient role, while others were expressing more specific concerns, for example, that their treating doctors might think they were over-reacting to a trivial illness.¹¹ The ‘sense of duty’ felt by the doctors was considered an internalised expression of this embarrassment.¹¹ Many doctors described concern (embarrassment) that they should not impose upon another doctor’s time, especially if the illness was a trivial one.^{10,13} Shadbolt reported that 70% could only justify seeing a doctor if they were really ill.²⁴ Up to one-third of doctors stated they had a condition that they felt they should consult a doctor for, but had not done so because they were a doctor themselves.^{9,13,24} Other doctors worried that their own diagnosis or treatment would be found to be wrong if they sought medical help.¹³ Embarrassment was reported to be more prominent for mental health problems.^{12,13,25} Doctors were also more reluctant to seek help for ‘less-defined’ illnesses, such as stress, sexual difficulty, and alcohol dependence.^{9,10,12,13,17} Some of the barriers identified were derived from doctors responding to hypothetical vignettes rather than actual experiences.^{9,10,16,17,25}

Time and cost. Lack of time was commonly reported as a significant barrier (Table 2). Cost was a more complex barrier, involving both direct and indirect costs, including fees charged, time off, and access to disability and business insurance cover. Cost remained an important barrier to healthcare access, even though physicians may be in the upper socioeconomic group.

Personality factors. Personality issues were independently related to accessing health care.^{19,26} Considering three health locus of control domains, a physician who has a strong belief that a physician

can help is more likely to have a GP. A physician who has a high chance locus of control is less likely to have a GP, and a physician who has a strong belief that health is under their control is also less likely to have a GP.¹⁹ The specialty practice of the doctor may also affect health access. Gross *et al* found that paediatricians and psychiatrists were more likely to have a GP, compared to surgeons and pathologists.¹⁹

Medical knowledge. Having special knowledge in the health field affects doctors’ health access. This knowledge enhances doctors’ understanding of the potential implications of symptoms and the ways in which illness might have an impact upon different aspects of practice, including qualifying for insurance and remaining registered.^{11,13} Doctors are also aware of how an illness and its treatment is likely to have an impact on their work (for both their colleagues and their patients),^{11,14,23} even before the illness is diagnosed. Medical knowledge enables doctors to justify their symptoms as ‘insignificant’. When doctors’ reluctance to seek health care for minor illness is coupled with this tendency to rationalise symptoms as minor (trivial) conditions, the potential seriousness of this barrier is recognised.^{11–13,22}

Medical knowledge also makes doctors more aware of the limitations of medical care. Awareness of the history of medicine, together with the recent emphasis on evidence-based medicine within the medical literature, highlights the lack of evidence for many diagnostic and treatment procedures.²⁷ This encourages scepticism in the doctor–patient, and sometimes this scepticism may be expressed as a lack of compliance,¹⁸ just as it is in the general community.²⁸

Provider category

The provider determines how confidential health information will remain, and this was a key issue. Confidentiality can also be considered an umbrella term reflecting different fears regarding how personal details will be handled in the medical setting. Doctors may be very aware of the limitations to confidentiality within a system where obligatory legal requirements for reporting and the closeness of social networks can make confidentiality difficult to assure.⁸ Having a professional partner as a GP further complicates this issue.¹³ Anxiety about confidentiality is greater for those with mental health problems.¹⁰ The provider also determines the quality of care provided, and it is concerning to see how frequently the personal experience of poor medical care was reported.^{11,20,22} This is consistent with the many personal accounts of doctors seeking health care.^{29,30} A negative experience may reduce the future health access for the doctor–patient.

System category

Structural issues. Specific structural problems within the healthcare system were identified. The long hours of duty and difficulty accessing locums simply made it physically difficult for the doctor to access care.^{11–13,24} Doctors also lacked training in how to access appropriate self-care and how to treat their peers (in both formal and informal settings). Qualitative data showed that the doctor–patient expected to be treated like a ‘normal’ patient, yet the treating doctor often failed to satisfy this expectation.^{11,22,31,32}

Cultural issues. Underlying many of the aspects of doctors’ health-seeking behaviours identified was the culture of medicine and medical socialisation. For example, doctors commonly faced intense pressure to be healthy or to control their own illness. This pressure came from both medical colleagues and the community (Table 2). Self-treatment was actively encouraged by peers,^{10,13,20} and it is not culturally appropriate to acknowledge illness in a peer.^{11,13,14} Rosvold and Bjertness found that one-quarter of doctors hide their illness from colleagues.¹² Corridor consultations were accepted practice, and fostered self-treatment.^{12,24}

DISCUSSION

Summary of main findings

This systematic review describes the current knowledge of doctors’ health-access behaviours and the barriers they experience accessing health care. Firstly, this review demonstrates that very little information is available, despite the importance of this issue for doctors’ health. Secondly, collation of these data enables comparison between doctors’ health access and that of the general community.

Strengths and limitations of the study

It should be noted that despite the different styles of studies (descriptive and qualitative), the different populations studied, and the different countries where the data were collected, there was a high level of concordance in the health-access experiences described by doctors. The diversity of the study populations (different countries, specialties, age groups, and sex) also improves the generalisability of the data.

A number of the articles reviewed are relatively old. Ten papers are over a decade old. Many of these articles are still regularly cited and continue to inform the current debate on doctors’ health. The two most recent studies in this review report similar findings to the earlier studies.^{21,33} Uallachain surveyed younger doctors, who may have been exposed to more education about self-care in their training, yet the results are similar.²¹

The quality of the data does limit the conclusions that can be made. Imprecise definitions within the studies affect the interpretation of the results. Selective reporting of comments from the questionnaires may have caused potential reporting bias (Appendix 2). Care should also be taken when accepting hypothetical data, because doctors report how they should access health care differently from how they actually access health care.³⁴

Comparison with existing literature

Health access for doctors and the community. Having a GP enhances the opportunities for both doctors and the general community to access preventive health care.^{19,35} Professional colleges and registration boards recognise this advantage when they encourage doctors to have their own GP.^{36–38} However, this review reveals that health access is far more complex than just having a GP. Most doctors who have their own GP still self-treat and access informal health care. This is not surprising when we acknowledge that self-treatment and informal care have always been a normal part of the pathway to formal health care for all. This issue has been well described for the general community within the context of the lay referral pathway.³⁹ Understanding doctors’ health-access behaviours in this broader context makes it evident that simply encouraging doctors to have their own GP is not enough to improve healthcare access; it is only the first step.

Barriers. The data show that the barriers that doctors describe are also similar to those experienced by the general community, especially once other social determinants of health (for example, financial, physical, and education barriers) are considered.⁴⁰ Most people who do not have a GP simply do not believe they need one,³⁵ and it is possible that since most doctors are satisfied with the care they receive,¹⁷ many doctors may not believe they need a GP. Lack of time and cost issues are common concerns for the general community as well as doctors (Table 2).

Embarrassment is a common concern for all patients. For doctors, this may be complicated by concern about imposing upon a colleague and the potential exposure of error in self-diagnoses and treatment. These are complex issues, and the use of umbrella terms such as ‘embarrassment’ in surveys makes interpretation of such data difficult. Being worried that the problem might be trivial is also a concern for patients,⁴¹ although the magnitude of this barrier for doctors may be greater. Confidentiality is another important issue for both the community and doctors, especially in relation to mental health issues.⁴² Most studies show that the barriers that doctors experience are more severe for those with mental

health problems, just as they are for the general community.⁴³

The qualitative data emphasise the importance of the system barriers that reduce health access for doctors. System barriers are very difficult for any individual doctor to conquer alone. They need to be addressed by the profession as a whole. Some structural barriers are currently being addressed effectively. For example, the European Working Time Directive is ensuring safe work hours throughout the European Union.⁴⁴

Considering the system barriers, the acculturation process is especially important in doctors' health access. These cultural barriers are the most difficult for the individual doctor to address. Acculturation begins in medical school.^{45,46} Barriers are created when role models fail to normalise health access, and systems propagate the stigma of illness for doctors.⁴⁷ Cultural change is needed. It is only when it becomes acceptable (culturally normal) for a doctor to seek health care for physical and mental health problems that health access will improve.

Educational programmes have been developed to improve doctors' health. These include training in self-efficacy,⁴⁸ and peer group support.³ Continuing medical education has also been reported to be a protective factor for burnout.⁴⁹ Many programmes focus on reducing the stress that doctors experience and on the individual doctors' response to their health. They are often regarded positively by the participants,⁵⁰ although there are limitations.⁵¹ Certainly, there is little evidence to suggest that these programmes effectively address health-access barriers, and given the systemic nature of the barriers this is not surprising.

Implications for future research

This review highlights a significant gap in current knowledge of an important aspect of doctors' health — the health-access behaviours of doctors. Further research targeting the understanding of doctors' health-access behaviours is encouraged. Presenting future research within a broader context will add an important perspective to the doctors' health literature.

Appendix

Additional information can be found in the online version of this article

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Discuss this article

Contribute and read comments about this article on the Discussion Forum: <http://www.rcgp.org.uk/bjgp-discuss>

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Appendix 1. Studies providing quantitative data for this systematic review.

Author(s) and year	Country	Number studied	Population studied/ controls	Study design	Responders, <i>n</i>	Age, years	Response rate, %
Allibone <i>et al</i> , 1981 ²³	UK	1444	Medical graduates 1935–1959	Postal questionnaire	932	52.2 ^a	65
Glanz <i>et al</i> , 1982 ⁵²	US	636	Physicians at Temple University Health Sciences Centre 1980	Distributed questionnaire	296	28 ^a	47
Kahn <i>et al</i> , 1988 ⁸	US	221/416 ^b	Doctors in university faculty/non-MD academics	Postal questionnaire	144/283 ^b	n/a	65/68
Richards, 1989 ¹³	UK	501	Family physicians contracted with Avon Family Practitioner Committee at 1 July 1987	Postal questionnaire ^c	431	≤35: 27.4%; 36–50: 47.8%; ≥51: 23.7%	86
Rennert <i>et al</i> , 1990 ¹⁸	Israel	366	Members of Israeli Association of Family Physicians	Postal questionnaire	243	47 ^a	66
Bortz, 1992 ⁵³	US	152	Members of Palo Alto Medical Clinic	Survey	126	47.6 ^a	83
Chambers and Belcher, 1992 ¹⁵	UK	275	Family physicians attending a course or postgraduate lecture	Given questionnaire at meeting	247	42.2 ^a	90
Pullen <i>et al</i> , 1995 ⁹	Australia	2564	Registered doctors	Postal questionnaire	1125	n/a	44
Baldwin <i>et al</i> , 1997 ¹⁶	UK	150	Junior doctors who graduated from a Scottish university	Structured interview ^c	142	33 ^a	95
Clarke <i>et al</i> , 1998 ²⁰	Ireland	85	GPs, GP trainees, hospital consultants	Postal questionnaire	76	n/a	89
Wines <i>et al</i> , 1998 ⁵⁴	Australia	275	Doctors attending of urology meeting	Given questionnaire at meeting	205	n/a	75
Forsythe <i>et al</i> , 1999 ²⁵	UK	1733	Consultants and principals in general practice	Postal semi- structured questionnaire ^c	1151	n/a	66
McCall <i>et al</i> , 1999 ²⁶	Australia	544	Family physicians	Postal questionnaire	318	<35: 21%; 35–54: 64%; >55: 15%	58
Richards, 1999 ³¹	New Zealand	500	Registered doctors	Postal questionnaire	311	<30: 13.5%; 30–49: 67.5%; >50: 18.9%	62
Gross <i>et al</i> , 2000 ¹⁹	US	1337	Medical graduates 1948–1964	Postal questionnaire	915	61 ^a	68
Rosen <i>et al</i> , 2000 ³²	US	389	Internal medicine residents (four training programmes)	Postal questionnaire	316	29 ^a	83
Toyry <i>et al</i> , 2000 ⁵⁵	Finland	4477	Finnish Medical Association members	Postal questionnaire	3313	42.3 ^a	74
Shadbolt, 2002 ²⁴	Australia	300	Junior house officers	Survey (issued) and focus groups	156	n/a	52
Rosvold and Bjertness, 2002 ¹²	Norway	1476	Norwegian Medical Association members	Postal questionnaire	1015	42 ^a	69
Campbell and Delva, 2003 ¹⁷	Canada	215	Residents in Faculty of Medicine at Queen's University	Mailbox questionnaire	122	n/a	57
Davidson and Schattner, 2003 ¹⁰	Australia	896	Health Insurance Commission register	Postal questionnaire ^c	358	40–55: 55%	40
Uallachain, 2007 ²¹	Ireland	112	National Association of GP trainees at annual general meeting 2003	Given questionnaire at meeting	100	<25: 8%; 26–30: 81%; 31–35: 10%; >36: 1%	89
Schneider <i>et al</i> , 2007 ³³	Switzerland	2756	Swiss primary care physician members of Federatio Medicorum Helveticorum	Postal questionnaire	1782	51 ^a	65

^aAverage age. ^bSubjects/controls. ^cSome information is based on hypothetical situations. n/a = not available. Registered doctors = a sample of doctors from a medical register.

Appendix 2. Studies providing qualitative data for this systematic review.

Author(s) and year	Country	Number studied	Population studied	Study design	Responders, <i>n</i>	Age, years	Responders adding comments, <i>n</i> ^a
Allibone <i>et al</i> , 1981 ²³	UK	1444	Medical graduates 1935–1959	Postal questionnaire	932	52.2 ^b	561
Richards, 1989 ¹³	UK	501	Family physicians contracted with Avon family Practitioner Committee at 1 July 1987	Postal questionnaire ^c	431	≤35: 27.4%; 36–50: 47.8%; ≥51: 23.7%	n/a
Chambers and Belcher, 1992 ¹⁵	UK	275	Family physicians attending a course or postgraduate lecture	Given questionnaire at meeting	247	42.2 ^b	98
McKevitt and Morgan, 1997 ¹¹	UK	64	Doctors with an illness invited to participate in research	Interviews: face-to-face or telephone ^b	64	27–65	
Richards, 1999 ³¹	New Zealand	500	Registered doctors	Postal questionnaire	311	<30: 13.5%; 30–49: 67.5%; >50: 18.9%	109
Rosen <i>et al</i> , 2000 ³²	US	389	Internal medicine residents (four training programmes)	Postal questionnaire	316	29 ^b	59
Thompson <i>et al</i> , 2001 ¹⁴	UK (Northern Ireland)	172	Family physicians	Focus groups and interviews	27	n/a	
Shadbolt, 2002 ²⁴	Australia	300	Junior house officers	Survey (issued) and focus groups	156	n/a	n/a
Fromme <i>et al</i> , 2004 ²²	US	38	Physician-patients with cancer	Semi-structured interview	23	28–83	

^aSome quantitative studies asked for qualitative comments. ^bAverage. ^cSome information is based on hypothetical situations. n/a = not available. Registered doctors = sample of doctors from a medical register.