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# Resilience of primary healthcare professionals:

## a systematic review


## Abstract

**Background**
Modern demands and challenges among healthcare professionals can be particularly stressful and resilience is increasingly necessary to maintain an effective, adaptable, and sustainable workforce. However, definitions of, and associations with, resilience have not been examined within the primary care context.

**Aim**
To examine definitions and measures of resilience, identify characteristics and components, and synthesise current evidence about resilience in primary healthcare professionals.

**Design and setting**
A systematic review was undertaken to identify studies relating to the primary care setting.

**Method**
Ovid®, Embase®, CINAHL, PsycINFO, and Scopus databases were searched in December 2014. Text selections and data extraction were conducted by paired reviewers working independently. Data were extracted on health professional resilience definitions and associated factors.

**Results**
Thirteen studies met the inclusion criteria: eight were quantitative, four qualitative, and one was an intervention study. Resilience, although multifaceted, was commonly defined as involving positive adaptation to adversity. Interactions were identified between personal growth and accomplishment in resilient physicians. Resilience, high persistence, high self-directedness, and low avoidance of challenges were strongly correlated; resilience had significant associations with traits supporting high function levels associated with demanding health professional roles. Current resilience measures do not allow for these different aspects in the primary care context.

**Conclusion**
Health professional resilience is multifaceted, combining discrete personal traits alongside personal, social, and workplace features. A measure for health professional resilience should be developed and validated that may be used in future quantitative research to measure the effect of an intervention to promote it.


**Keywords**
health professionals; nurses, community health; physicians; primary care; resilience, psychological.

## INTRODUCTION

There is increasing recognition that a modern healthcare workforce needs to be resilient to cope with difficult situations.[1] Although attention to resilience in the workplace is increasing, particularly in relation to staff retention, the concept of resilience among healthcare professionals within the primary care setting needs to be explored.[2] Primary health care relates to community-based situations rather than hospital settings.

Resilience is described as *'a dynamic process encompassing positive adaptation within the context of significant adversity'*.[3] Previous research has framed health professional resilience in relation to avoiding burnout, which is linked to workplace stress.[4] However, from the wider literature on personal resilience, professional resilience appears to be more than not 'burning out'; it involves positive adaptation and developing personal resources.[3] Adverse workplace challenges can influence professional resilience. There are several likely sources of challenges to professional resilience in primary care. First, challenges could stem from difficult clinical issues or conflict with challenging patients. Second, challenges may be conferred by organisational issues unique to the specific workplace, for example, in-house communication, administration systems, or personal relationships. Third, external organisational pressures may be influential such as increasing scrutiny of practices and individuals through, for example, the Quality and Outcomes Framework, continuing professional development regulations, and revalidation. Although some individuals can become overwhelmed by these challenges, others are able to not only retain a positive outlook, but also to thrive in their roles.

A number of studies investigating the relationship between occupations and high suicide proportional mortality ratios have identified that those working in health professional roles, including doctors and nurses, have among the highest rates for both males and females.[5] In the UK, the General Medical Council has recognised the need to promote resilience to reduce suicide in doctors and recommends that all medical schools provide training in emotional resilience.[1] The concept of improving resilience during medical training has subsequently received interest[1] and resilience is now more generally recognised as an important feature of health professionals.[1,5,6]

The aim of this study was to provide a current understanding of health professional resilience in the primary care setting, a systematic review was conducted. The review examined how health professional resilience is defined and measured in the primary care literature. It identified characteristics and factors associated with health professional resilience and synthesised the current evidence.

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## How this fits in

Primary healthcare professionals face a wide range of clinical conditions. The literature on health professional resilience in primary care has not previously been synthesised to identify definitions, characteristics, and associations. This review found primary healthcare professional resilience is multifactorial. Current measures do not adequately encompass the multifactorial nature of resilience in this setting.

## METHOD

### Data sources

Ovid®, Embase®, CINAHL, PsycINFO, and Scopus databases were searched. Terms relating to primary care were combined with resilience in keywords, title, or abstract, and using appropriate truncation symbols and alternative spellings. The search strategy is shown in Ovid format in Appendix 1. Searches were restricted to empirical studies, in English, during the last 20 years; the last search was performed on 17 December 2014. Computer searches were supplemented by hand-searching of reference lists.

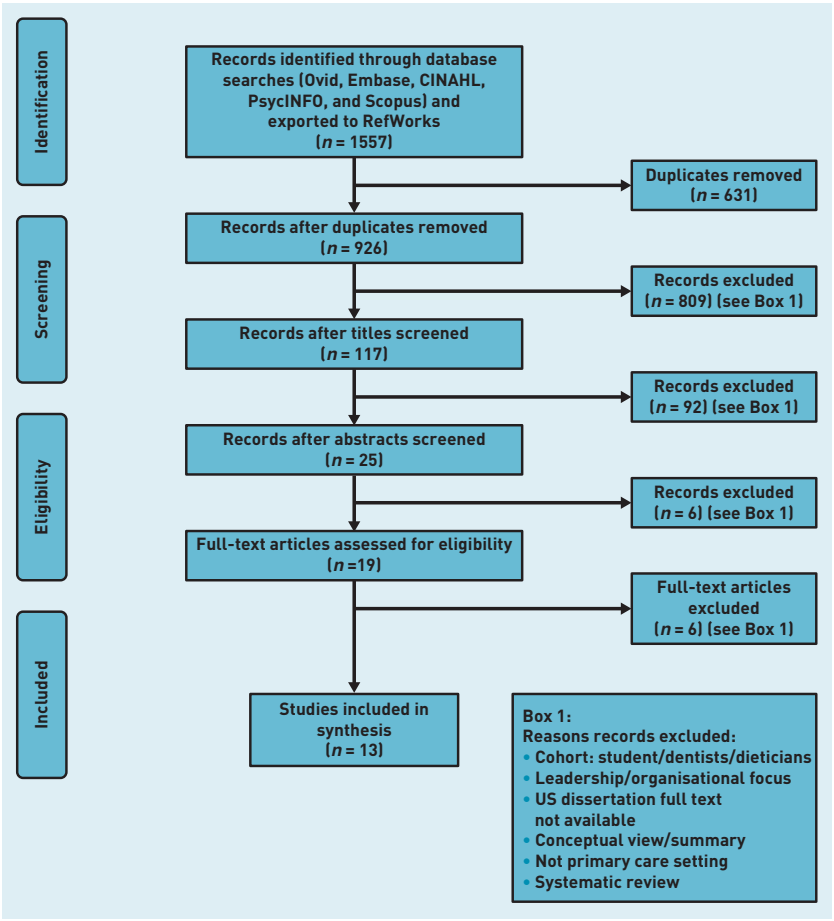



*Figure 1. Flow diagram for identification, screening, eligibility, and inclusion of papers for review.*

### Study selection

Two reviewers independently screened titles and abstracts to identify suitability for full-text extraction. All seven research team members independently scrutinised full texts of at least two studies each, where available (see results for availability reasons). Extracted data included populations and settings, sample sizes and response rates, definitions and measures of resilience, and other components of resilience and associations of other resilience factors. Any disagreements were resolved by consensus. Studies were limited to professionals in primary care; studies in educational settings were excluded, as were those solely in secondary care. Where studies included both primary and secondary care professionals, data were extracted for primary care professionals where possible. Due to the exploratory, descriptive nature of this review a formal quality assessment of the studies was not undertaken; all studies that met the inclusion criteria were examined. The terms 'GP' or 'general practitioner', 'family physicians', and 'family practitioners' were all considered to relate to the same discipline.

### Data synthesis

Findings were synthesised under the key aims of the review, that is, definitions, characteristics, and associations with resilience.

## RESULTS

The search identified 926 unique records. After screening and assessment of eligibility, 13 studies that explored or measured resilience were finally included (Figure 1).

### Summary of included papers

All included studies were published in the last 8 years, including six in 2013,[7–11,13] one in 2014,[12] and one in 2015 (Table 1).[14] Study designs varied: eight were quantitative,[7,10–13,15–17] four were qualitative,[9,14,18,19] and one was an intervention study.[8]

### Countries and settings

Published studies originated from a range of mostly high income countries: Australia ($n$ = 3),[7,10,19] US ($n$ = 3),[8,13,15] Germany ($n$ = 2),[9,17] Sweden ($n$ = 2),[12,16] UK ($n$ = 1),[14] Canada ($n$ = 1),[18] and South Africa ($n$ = 1).[11]

## Table 1. Studies included in systematic review

| First author, year | Population/country | Sample size/ response rate | Study design | Definition of resilience | Aim of study | Results associated with resilience |
|---|---|---|---|---|---|---|
| **Quantitative studies** | | | | | | |
| Cooke, 2013[7] | GP registrars (junior doctors), hospital and GP rotations. In four regions of Australia | 148 invited: participants reported: 128 (90%) | Cross-sectional | Dynamic, evolving process of positive attitudes and effective strategies, as responses to life stressors | To measure resilience, burnout, compassion satisfaction, personal meaning in patient care, and intolerance of uncertainty | Compassion satisfaction/personal meaning in patient care; negative association with burnout/secondary traumatic stress/inhibitory anxiety/ general intolerance to uncertainty/ concern about bad outcomes and reluctance to disclose uncertainty to patients<br>No relationship between burnout or resilience and reluctance to disclose uncertainty to physicians<br>Lower resilience scores associated with higher risk of burnout |
| Eley, 2013[10] | Family practitioners and (10%) international medical graduates across all states in Australia | 785 invited: participants 479 (61%) | Cross-sectional | Resilience can be considered as a process of adaptation to adversity and stress. Resilient individuals tend to recover from setbacks or trauma and portray a common set of characteristics that help them cope with challenges in life | To investigate the relationship between the pattern of personality traits and measures of resilience in a sample of family practitioners | Multiple regression found significant association between resilience and high self-directedness, high persistence, and low levels of harm avoidance (full model not shown) |
| Gerber, 2014[12] | Healthcare workers and social insurance officers, in Sweden | 4434 invited: response rate 2705 (61%), final sample after outliers removed | Cross-sectional | Those with high stress and good mental health are defined as resilient | To examine whether employees with differing occupational stress and mental health profiles differ in their self-reported levels of physical activity | Physical activity associated with healthy and resilient profiles among the public service sector individuals, independent of social and demographic background |
| Glasberg, 2007[16] | Healthcare personnel including primary healthcare centres and one hospital, in rural northern Sweden | 625 invited: response rate 423 (68%) | Cross-sectional | Not given by authors Examples from Wagnild and Young (1993) and Wagnild (2009)[21,22] | To determine the factors associated with burnout in healthcare personnel | Univariate analysis: higher levels of EE and DP both associated with low resilience. Multivariate analysis: EE associated with resilience (not DP) |

*... continued.*

## Table 1 continued. Studies included in systematic review

| | | | | | | |
|---|---|---|---|---|---|---|
| Keeton, 2007[15] | Doctors: general obstetrician–gynaecologists, subspecialty obstetrician–gynaecologists, general internal medicine, general paediatrics, general surgery, and family medicine, in US | 2000 invited: completed surveys 935 (48%) | Cross-sectional | Not explicitly reported | To explore factors associated with physician career satisfaction, work–life balance, and burnout focusing on differences across age and specialty | Career satisfaction: females more satisfied, personal accomplishment and emotional resilience significantly associated with career satisfaction. Associations with work–life balance: some control of schedule and hours, total weekly hours, being older, fewer children. Associations with emotional resilience: control over schedule and hours, being older, fewer children. Associations with personal accomplishment: being older, some control over schedule and hours, total weekly hours, gross annual household income, and being an obstetrician–gynaecologist |
| Rossouw, 2013[11] | Medical doctors in community healthcare clinics and district hospitals, in South Africa | 147 invited: response rate 135 (92%), 3 excluded, total participants 132 (90%) | Cross-sectional | Resilience defined in discussion as a measure of a person's stress coping ability and as a target for interventional measures when combating burnout | To investigate burnout and depression in medical doctors in context of work-related conditions and the role of resilience as a modifiable factor. To define magnitude of the problem to motivate the development of an action within reach of doctors working in these settings | CD-RISC score correlated negatively with emotional exhaustion, depersonalisation, and BDI score. CD-RISC score correlated positively with personal accomplishment and delivered quality of care. Participants using medication had lower CD-RISC score. No correlations with sociodemographic data |
| Taku, 2013[13] | Doctors: mixture of internal medicine; family medicine, radiology, and other. Mixture of residents, attending, and fellows, in US | 839 invited: total participants 290 (34.5%) | Cross-sectional | Resilience is a personality attribute that moderates the negative effects of stress and promotes the ability to 'bounce back' after adversity.[20] Resilience moderates the negative effects of stress and promotes the ability to 'bounce back' following adversity (Wagnild & Young 1993)[21] | To examine the relationships between perceived growth as a physician and burnout after controlling for the effects of perceived family support, dispositional resilience, age, and marital status | PTG significantly associated with burnout in all three burnout domains. EE: higher PTG associated with lower levels of EE-resilience and family support not significant in final model. DP: PTG/family support associated with DP, interaction between PTG and family support, that is, high DP had low levels of PTG family support. Personal accomplishment: resilience and PTG associated, interaction between resilience and PTG, effect of PTG stronger for physicians with lower resilience |

... continued.

**Table 1 continued. Studies included in systematic review**

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|---|---|---|---|---|---|---|
| Unrath, 2012[17] | GPs in outpatient sector (primary care) in Rhineland-Palatinate, Germany | 2092 invited: response rate 808 (39%) | Cross-sectional | Resilience relates to the capacity to remain healthy in the face of strain and is therefore a sort of hardiness | To identify possible risk factors for AUDs among GPs working in the outpatient sector | Resilience negatively associated with AUD. Results suggest certain resilience level is protective against AUD; does not alter much with increased resilience |
| **Qualitative studies** | | | | | | |
| Bowden, 2014[14] | Frontline mental health professionals (locally known as 'linkworkers') working mainly in general practice settings, in UK | 10 invited: 9 (90%) involved in individual interviews and focus groups | Qualitative | Not defined but referred to in guidance papers as *'linked with adaptability to change'*[23,24] | To investigate frontline mental health professionals' perceptions of work stress and the rewards and demands associated with their work | Factors related to caring role: stressors control and responsibility for care, demands/managing boundaries/ ownership. Creativity related to developing service. Range of coping seen in individual and team strategies. Linkworkers: aspects of work positive but in excess could become sources of stress |
| Jensen, 2008[18] | Family physicians (GPs) in Hamilton, Ontario, Canada | 20 invited to attend focus groups: participants 17 (85%) | Qualitative | No working definition — in guidance papers *'A dynamic evolving process of positive attitudes and effective strategies'* | To explore the dimensions of family physician resilience | Four main aspects of physician resilience were: 1) attitudes and perspectives, includes valuing physician role, maintaining interest, developing self-awareness, accepting personal limitations; 2) balance and prioritisation, includes setting limits, taking effective approaches to continuing professional development, honouring the self; 3) practice management style, includes sound business management, good staff, using effective practice arrangements; 4) supportive relations, includes positive personal relationships, effective professional relationships, and good communication |
| Stevenson, 2011[19] | Primary healthcare physicians working in Aboriginal health, prisons, drug and alcohol medicine, or youth and refugee health, in Australia | 15 (100%) | Qualitative | No explicit definition of resilience given | To explore job satisfaction and resilience among primary care doctors who have worked for sustained periods in medically underserved populations in Australia | Emergent theory: reflectiveness, respectful engagement with job, and clear sense of boundaries and limits important in mitigating impact of work volume and intensity that organisations often struggled to contain. Also linked to and argued as predictors of resilience: job satisfaction, respect for patients, sense of control, and intellectual interest. Referred from existing literature, construct of 'prosociality' links to 'vicarious resilience' |

*... continued.*

**Table 1 continued. Studies included in systematic review**

| | | | | | | |
|---|---|---|---|---|---|---|
| Zwack, 2013[9] | Psychiatrists, surgeons, GPs, and other physicians, across Germany | Recruiting followed pyramid approach; 200 interviews conducted | Qualitative | Not defined | To identify health-promoting strategies employed by experienced physicians in order to define prototypical resilience processes and key aspects of resilience-fostering preventive actions | 30 subcodes/three dimensions: 1) job-related gratifications derived from treatment interactions; 2) practices: leisure-time activities, self-demarcation, limitation of working hours, continuous professional development; 3) attitudes: acceptance of professional and personal boundaries, focus on positive aspects of work, personal reflexivity<br>Conclusion: *'In relation to Conservation of Resources Theory, physician resilience emerged as the ability to invest personal resources in a way that initiates positive resource spirals in spite of stressful working conditions.'* |
| **Intervention** | | | | | | |
| Fortney, 2013[8] | Primary care clinicians Wisconsin-Madison, US | Number invited unknown: 30 recruited | Intervention | The ability to recover from adversity | To investigate whether an abbreviated mindfulness intervention could increase job satisfaction, quality of life, and compassion among primary care clinicians | Reductions in job burnout, depression, anxiety, and stress associated with participation in mindfulness training courses adapted for primary care physicians.<br>Resilience score not significantly changed at any follow-up (1 day, 8 weeks, or 9 months) |

*AUD = alcohol use disorder. BDI = Beck Depression Inventory. CD-RISC = Connor Davidson Resilience Scale. DP = depersonalisation. EE = emotional exhaustion. PTG = post-traumatic growth.*

### Study populations and settings

The mean age of the health professionals studied was not reported in six studies;[7,8,11,14,18,19] in the remainder, ages ranged from 20–79 years (data not shown).

Populations in the quantitative studies consisted of combinations of medical professionals including: primary care/family physicians,[10,11,13,15–17] GP registrars,[7] and multiple hospital specialties.[9,11,13,15,16] One study involved healthcare workers (in healthcare centres, public dental care centres, and hospitals) with at least 1 year of experience (roles were not specified).[12]

Qualitative studies investigated physicians from different hospital disciplines and GPs,[9] family physicians,[18] and other primary care practitioners working in a range of settings.[14] The intervention study involved GPs only.[8]

### Main aims of studies

The main aims of the quantitative studies were: investigating resilience as a modifiable factor;[7,10,11,13] and exploring factors associated with burnout.[7,11,13,15,16] Other areas investigated included compassion satisfaction, personal meaning in patient care and intolerance of uncertainty,[7] depression,[11] risk factors for alcohol use disorders,[17] occupational stress, mental health profiles and self-reported levels of physical activity,[12] career satisfaction and work–life balance,[15] and personality traits.[10]

Of the qualitative studies, two aimed to explore physicians' perceptions of characteristics and health-promoting resilience strategies required in their jobs;[9,18] one explored job satisfaction and resilience;[19] and one investigated elements of stress, considering social and contextual issues, team or organisational issues, and informing service developments.[14]

The intervention study aimed to determine if teaching abbreviated mindfulness skills could improve resilience, quality of life (QOL), job satisfaction, and compassion.[8] Mindfulness meditation practices were taught over four time points and participants completed online outcome measures.[8]

### Measures and outcomes

Seven studies, including the intervention study, used existing measures of resilience. Six studies used versions of the Wagnild & Young Resilience Scale.[21] One used the original 25-item scale,[16] one a 26-item version,[10] three used a 14-item version,[7,8,13] and one used a German translation of the measure.[17] One study[11] used the Connor-Davidson Resilience Scale (CD-RISC).[25]

Maslach's Burnout Inventory (MBI)[26] was

used in five quantitative studies,[7,11,13,15,16] and one qualitative study used a single-item measure of burnout to characterise the groups.[9] The three-factor model of the MBI was the 'gold standard' for exploring burnout for many years; these factors were: emotional exhaustion, depersonalisation, and personal accomplishment, and this model was used in a large proportion of previous studies exploring burnout.[16]

Other job-related variables measured in the quantitative studies included: the importance of interaction with professional colleagues,[13] administrative workload,[9] time for breaks,[9,17] and working hours.[9,15,17] Some studies reported sociodemographic information including number of children, social responsibilities, and marital status.

**Synthesis of findings**

*Definitions of resilience.* One study defined resilience as *'maintaining health despite adversity'*;[8] two studies offered definitions of resilience as being able to moderate the negative effects of stress, to *'bounce back'* from, or overcome, adversity.[13] Another study concluded that resilience is:

*'A dynamic, evolving process of positive attitudes and effective strategies.'*[18]

Several studies compared or contrasted resilience with burnout:

*'... a persistent, negative, work-related state of mind in "normal" individuals that is primarily characterised by exhaustion, and is accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behaviour at work.'*[11]

Five studies described negative associations between resilience and burnout;[7,11,13,15,16] and one simply described resilience as the inverted score on a burnout inventory. However, in several studies resilience was described as more than just not 'burning out': involving positive adaptation,[21] development of personal resources,[4] personal growth,[13] or a sort of hardiness.[17] That resilience encompasses more than just lack of burnout is also suggested by the one intervention study (a pilot study of abbreviated mindfulness) that showed significant improvements in burnout, but no change in measured resilience.[8]

*Personal characteristics associated with resilience.* Four quantitative studies examined the relationship between gender and resilience. One found that low levels of resilience were associated with a high volume and increased frequency intake of alcohol in male GPs. This study concluded that female GPs in Germany faced a more stressful burden than other females due to the challenging nature of their work as well as taking the leading role in raising children; female GPs had little opportunity for recreation time and, therefore, were more likely than others to succumb to destructive coping mechanisms such as alcohol overuse.[17] One study reported higher emotional exhaustion among female practitioners who are responsible for home and family, compared with male colleagues,[16] and another study reported that participants, regardless of gender, with responsibilities for caregiving had lower resilience scores overall.[12] One study found moderately high trait scores in resilience in the sample; females scored higher for cooperativeness, reward dependence, and harm avoidance, but lower for the existential aloneness resilience scale. Effect sizes for gender differences were, however, small. Three quantitative studies[7,15,16] explored gender associations with burnout. One argued that burnout is a 'syndrome' of emotional exhaustion, such as feeling exhausted and over-burdened, and that females were predominantly affected by emotional exhaustion, which was also associated with low resilience.[16] The other two studies found no gender association with burnout.[7,15]

One questionnaire study examined the associations of resilience with personality features[10] using an index of temperament and character traits. Resilient clinicians were characterised by high self-directedness (conscientious, self-accepting, and reliable), high persistence, and low harm avoidance. Constructs linked to low harm avoidance were also found in two other questionnaire studies, which found resilience to be associated with higher tolerance of uncertainty[7] and lower 'stress of conscience'.[16] Qualitative studies also identified the importance of accepting uncertainty and occasional error[18] and of actively engaging with uncertainty.[9] Several studies described the importance of personal meaning[13] or sense of purpose[7,8] or vocation,[18] although it is not clear whether this drives resilience, or arises as a consequence of resilient behaviour.

*Work environment factors associated with resilience.* Despite the obvious importance of stressors for the display of resilience none of the studies attempted to objectively

measure workplace stress. Instead studies examined perceived control over work or identified protective environmental factors (control over workload or supportive colleagues).[18,19] One study found that, although emotional resilience was lower with increasing numbers of hours worked per week, it was increased by having greater control over time and content of work.[15] Qualitative studies described a range of mechanisms by which workload management was associated with perceived resilience, including delegation, boundary setting, etc.[9,14,18]

*Social, personal, and lifestyle factors associated with health professional resilience.* Social, personal, and lifestyle factors that influence resilience were investigated in several studies. Higher resilience was associated with physical activity.[12] Home and social activities can be disrupted by work or worrying about work and vice versa, which results in tensions and this in turn can negatively affect resilience.[15] When there is stress in leisure time, resilience may be increased by improving coping strategies including using evaluation activities (involving *'the* [in]*ability to relax, the performance of pleasant activities, or the freedom to choose activities'*).[17] Family support, along with resilience and high perceived growth, was a protective factor for burnout.[13] Two studies suggested that leisure time relieves stress. One of these studies further suggested that relieving tensions through leisure time may help to maintain resilience, due to the shift of focus from work.[9]

*Overall synthesis.* Despite the limited information in the current literature on resilience in primary healthcare professionals, a plausible model for professional resilience emerged. In that model, resilience permits the professional to manage demand (a combination of volume, intensity, and controllability of workload) assisted by external supports (both within work and beyond work). Resilience in the professional is represented by continuing to perform well, adapting to changing circumstances, and maintaining a sense of professional and personal fulfilment. Resilience in primary care professionals is likely to be underpinned by traits of high self-determination, high persistence, and low harm avoidance.

## DISCUSSION

### Summary

This international review revealed few studies of health professional resilience in the primary care setting. Furthermore, the focus was largely on doctors with very little on other health professionals.

Health professional resilience appears to be a multifactorial and evolutionary process. In the healthcare professions there are many stressful challenges. Resilience combines discrete personal traits alongside experience, leading to positive adaptation. There appear to be some recognised resilience strategies to support health professionals to reduce stress and remain healthy, which in turn may lead to effective patient care and thriving in their roles. There was no evidence in this review about increased resilience improving patient health in primary care, although evidence that specific training programmes may provide benefit is available from secondary and tertiary care.[27,28]

There are some caveats when considering the quality of the evidence. Some health professionals may have under-reported their stress or burnout levels due to the desire to be perceived as highly capable and in control, both psychologically and practically. Health professionals may be less likely to participate in research if they face greater demands at work, and those with high levels of career satisfaction who do not perceive the survey topic as important may also have been less likely to respond. Having said this, the majority of studies had large sample sizes, response rates were high, and a range of countries were covered.

The instruments used to measure resilience were varied, which made it difficult to compare across all studies. Validated instruments were very focused on a particular phenomenon such as burnout (MBI). The existing resilience measures that were used in some studies were based on personal characteristics only and did not examine social and workplace challenges, which can be an important part of professional resilience. A new measure of professional resilience that can take into account a range of relevant factors is warranted. The included studies also tended to use several different measures in the same study, making data collection cumbersome. Encouraging research participation from busy health professionals in primary care is increasingly difficult and the time to complete measures may have been a limitation.[29] Generalisations of the results from the intervention study were limited due to self-selection and a lack of control group.[8]

### Strengths and limitations

Limiting the searches to English language

and primary care settings may have excluded some publications. Strengths of the review were the structured approach to data extraction and double reviewing of all stages. Only one intervention study was identified and the evidence base generally was from the last 5 years, suggesting that the sole intervention study[8] may mark the start of a new phase of research and development around increasing resilience.

**Implications for research and practice**

It was evident that resilience is influenced by many factors other than the individual. Future interventions should take the multifaceted nature of resilience into account. Positive influences on resilience included social resources (support of family, peers, and other groups), physical activity (health, fitness, and sports), and outside interests (hobbies and leisure activities). Individuals with higher resilience scores also had strong beliefs; perceptions of life were meaningful and they had the ability and flexibility to adapt to change.

The influence of the work environment was evidently a key factor in professional resilience. Lack of control over schedules and working hours was a strong predictor of burnout and can lead to difficulties with work–life balance. Workplace factors included workload volume, the sense of control and/or autonomy at work, and feeling valued in the workplace. Therefore workplaces should foster working practices that recognise the importance of boundaries between work and home life, provide opportunities for development and social support, and mitigate against the impact of high volumes and intensity of work. If this is to be achieved, those responsible for the, arguably increasing, externally imposed challenges to workplace resilience should consider the tasks required of primary healthcare professionals. For example, the Quality and Outcomes Framework, revalidation, and Care Quality Commission regulations can be meaningful and constructive rather than simply burdensome. Doctors may face different problems from those of other healthcare professionals and this may also be worth exploring. Given that two studies indicated a gender difference, with females more likely to struggle with the balance between work and home life, there should be an awareness of gender differences in future initiatives.

Future research would benefit from a single, standardised measure of health professional resilience that accounts for the multifaceted nature of resilience. Such a measure should explore workplace factors; personal factors including the ability to deal with stressful situations and work–life balance; and social activities, support, and responsibilities. It is important too that the research should address the way in which an effective resilience measure could be incorporated most effectively into professional training and practice. It seems likely that self-assessment of, and reflection on, resilience should be introduced early in the training of all health professionals with the intention of fostering a career-long habit. Equally, a self-generated resilience score seems likely to have value in formal workplace appraisal and professional revalidation processes. This is attractive because meaningful discussions of personal resilience could enhance the perceived value of appraisal and revalidation processes, currently likely to be viewed as merely burdensome by many.

In conclusion, this review revealed the multifaceted nature of professional resilience, incorporating individual traits with social and workplace factors. A new health professional resilience measure should be developed to reflect the multidimensional nature of resilience, which could be used in future evaluations of interventions to build health professional resilience.

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**Ethical approval**

Ethical approval for this study was awarded by the University of Aberdeen College Ethics Review Board (Reference CERB/2014/10/1135 dated 17 November 2014).

**Provenance**

Freely submitted; externally peer reviewed.

**Competing interests**

The authors have declared no competing interests.

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## Appendix 1. Search strategy, OVID

1. primary care.tw
2. primary health care.tw
3. health professional$.tw
4. general pract$.tw
5. physician$.tw
6. community pharmac$.tw
7. community health nurs$.tw
8. 1 or 2 or 3 or 4 or 5 or 6 tor 7
9. resilien$.tw
10. 8 AND 9