

# 'Dying to help': female doctor suicide and the NHS workforce crisis

*Female doctors are at increased risk of suicide compared with the general population, and suicides in male doctors may be increasing. There is a moral imperative to improve recognition and understanding of this concerning trend, to identify contributory factors and interventions including whether changes within the profession are necessary. We consider the reasons behind poor mental health and wellbeing in young doctors globally and nationally, offer potential solutions, and call for a more strategic approach to the training and support of every doctor for the future.*

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I'm an academically-focused psychiatry registrar, with research interests including mental wellbeing, mood disorder, psychopharmacology, and self-harm. I also have insight on this subject as an under-35, part-time, female junior doctor who shares pre-school childcare duties with a fellow medical partner. I also experienced the UK junior doctor crisis of 2016 in the context of a BMA junior local negotiating committee representative.

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I have a passion for understanding mental ill-health and ways of promoting wellbeing. My medical student elective with *Connecting with People* instilled in me the importance of compassion and hope when communicating with people in distress or experiencing suicidal thoughts. Tragically for a minority, suicide is the final outcome but huge numbers of medical students and doctors experience poor wellbeing and mental health. The medical profession should lead the way for all other professions in radically reducing such suffering.

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I work with royal colleges, policymakers, voluntary bodies, academics, healthcare organisations and experts by experience and contribute to the All Party Parliamentary Group for Suicide and Self-harm Prevention. I publish online and paper-based self-help resources on building wellbeing, suicide and self-harm prevention and lead social media campaigns and work with the media. I led the development of *Connecting with People's* clinical content and SAFETool to facilitate research into practice regarding people at risk of suicide and contributed to the GMC event on doctor resilience.

## **Melanie Jones**

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I am an independent career coach and trainer, retired consultant anaesthetist and Associate Postgraduate Dean Wales for Careers and LTFT training. My MA in Managing Medical Careers included a dissertation on role conflict in specialty trainees. I have published on the careers of women doctors, career breaks and support for trainees with health and disabilities.

## Introduction: suicide as a current issue within the medical workforce

Suicide is always a tragedy: in the UK in 2015 6,188 people took their own lives (ONS, 2016a), and whilst still being a rare event suicide was the most common cause of death for men under the age of 45. The recent reports of deaths via suspected or confirmed suicides of young female doctors in the United Kingdom (UK) has highlighted the potential challenges currently faced by these young individuals (Criddle, 2016; Jamieson 2017). In the United States (US), a recent rise in doctor suicides has prompted the US National Academy of Medicine to lead a multi-centre collaboration to attempt to reverse the current trend (The Lancet, 2017).

The suicide risk for female doctors is a particular problem. In the UK, the suicide rate between 2011 and 2015 for all female health care professionals was higher than national average (ONS, 2017). Suicide rates for female doctors have been historically higher than the national average for females. In contrast the rates of suicide for male doctors were 37% lower than the male average (ONS, 2017). A higher suicide rate in female versus male doctors was also found in a retrospective mortality study which examined 79 doctor suicides in Australia between 2001 and 2012 (Milner *et al*, 2016). However, more recent data from Australia has indicated that the suicide rate may be rising in both male and female doctors, to such an extent that both genders may have a greater suicide rate than the general population, with a disproportionately higher risk in females (146% elevated risk compared with the general population for female doctors versus 26% for male doctors) (Blue Beyond, 2017).

“The suicide risk for female doctors is a particular problem”

However, it should be remembered that first, death in young people of any gender is rare, and therefore any deaths from suicide may particularly stand out, and second there is a possibility that deaths of young men may be being (correctly or incorrectly) recorded as due to other means, such as accidents. The most frequent method of suicide in doctors was self-poisoning (51%), with ready access to prescription medications a risk factor for individual doctors (Milner *et al*, 2016). Anaesthetists, community health doctors, general practitioners and psychiatrists are noted consistently to have higher suicide rates than general hospital doctors (Hawton *et al*, 2001; Blue Beyond, 2017).

For every suicide, there are many more doctors suffering from emotional distress, burnout, and stress-related problems. An Australian survey of 12,252 doctors and 1,811 medical students showed that doctors have higher rates of psychological distress than the general population (Blue Beyond, 2013). Furthermore, compared

with other doctors, mental health problems and work-related stress was worse for young doctors and worse for female doctors. The most common sources of work stress reported by doctors were the need to balance work and personal responsibilities (26.8%), too much to do at work (25.0%), responsibility at work (20.8%), long work hours (19.5%) and fear of making mistakes (18.7%) (Blue Beyond, 2013). 10% of doctors had thought about suicide in the previous 12 months and a quarter of doctors at a previous point in their lives. (Blue Beyond, 2013). However, we have reason to be concerned about the whole medical workforce: Hawton found no differences with regard to seniority in his 2001 psychological autopsy study. In a 2017 survey, the Royal College of Anaesthetists found that 64% of anaesthetic trainees thought their job had affected their physical health, and 61% their mental health, with 85% at risk of becoming 'burnt out' (Campbell, 2017). Depression and alcoholism are contributory antecedents of suicide in the UK, and this is no different for doctors (Stanton and Caan, 2003).

We are aware that suicide is an important issue for doctors of all ages but we have discussed suicide risk factors as they pertain to young female doctors as this seems to be a potentially high-risk group with much to give for the future. We also note that there are is significant breadth of topics relevant to this discussion, but we focus on: the factors related to why female doctors might be at increased risk due to personality, the recent NHS funding pressures, male-centric pay and leadership, and the role of external bodies; where we could intervene; and what specific strategies we could consider as interventions.

## Why might female doctors be particularly at risk?

### Medical school selection and experience

It is possible that we select entrants to medical school who may be at increased risk of mental health problems. Medicine attracts and selects highly intelligent, self-critical, high achieving, conscientious, perfectionist and altruistic individuals who care deeply about their work. It is unclear if these characteristics are more prevalent in men or women, but women have outnumbered men in medical school graduation for the last 15 years (GMC, 2015). The criteria for medical school includes a focus towards repeated academic success. Furthermore, there is a bias towards privilege with 31% of foundation year 1 trainees having attended an independent or fee-paying school compared with the national average of 7% (Weetman *et al*, 2014). They are not selected for their ability to cope with an inherently high-stress degree and occupation that involves managing complex ethical dilemmas and highly complex clinical problems under high pressure at a very young age.

Poor mental wellbeing in medical students is a common experience (Student BMJ, 2015), despite the

increasing availability of resilience training. A systematic review of resilience training in the workplace from 2003 to 2014 identified 14 studies that investigated the impact of resilience training on personal resilience. Of the four broad categories of dependent variables they investigated they found that resilience training was useful for developing mental health and subjective wellbeing in employees, enhancing psychosocial functioning and improving performance, but did not affect physical/biological outcome (Robertson *et al*, 2016).

### **Working as a female junior doctor**

Students may have an idealised view of life as a doctor. The transition from medical school to working as a junior doctor can be tough: from the outset of work (typically in their mid-twenties) junior doctors are faced with the weight of life and death decisions, often in the context of exhaustion and sleep deprivation. It is commonplace to wonder if one is good enough, and whether mistakes have been made. Due to limitations of service demand all doctors struggle to give the quality of care they envisaged as students. This unrelenting environment may have a significant impact on mental health.

On average, across all grades, female doctors are paid 40% less than their male colleagues

Female doctors are affected by male-designed hierarchies and training structures. Women are societally expected to have a greater role in childcare than men, which places additional demands on women doctors who are mothers, with an associated role conflict. Women can be required to care for patients, partners, parents and children, which leaves little or no time for self-care. The training programme for all doctors can be harsh and inflexible to those trying to combine work, study and family life, and large deaneries and continual rotation can split families or result in long commutes.

Furthermore, junior doctors are constantly under career scrutiny: each year a junior doctor must have an 'annual review of competence progression' in which they submit evidence of examinations, assessments, personal learning and development, and subsequently discover if they can progress to the next year. In addition, failure in professional exams is a common and challenging experience (eg passing rates for Membership of the Royal Colleges of Physicians of the United Kingdom Parts 1, 2 and 3 were 45%, 65% and 44% respectively) (RCP, 2017). The natural solution for many women may be to take time out of training or to work part-time, but they may therefore be unintentionally disadvantaged in terms of their career with an elongated training programme or a failure to complete training.

### **The funding pressures of the NHS versus rising demand**

The NHS is currently required to make £22 billion of efficiency savings by 2020 (NHS England, 2014). This is despite ever-increasing patient demand. In 2016, there were 6,207 unfilled doctor vacancies (Hughes and Clarke, 2016) and seven in ten junior doctors had to work a rota with a permanent gap (RCP, 2016a). The Royal College of Physicians (RCP, 2016b) describes the NHS as 'underfunded, under doctored and overstretched'. UK doctors report that each month on average a junior doctor will have seven shifts without drinking enough water and four without eating (RCP, 2016a). 41% of junior doctors now report that excessive administrative work poses a serious risk to patient safety in their hospital (RCP, 2016a). Increased demand, longer shifts with unpredictable finish times, little recovery time and poor sleep are a recipe for stress and burnout.

### **Gender inequality and the gender pay gap in medicine**

On average, across all grades, female doctors are paid 40% less than their male colleagues – the average female salary for all doctors was £48,125 versus the average male salary £79,964 (ONS, 2016c). This takes account of the fact that currently there are proportionally fewer female doctors in senior consultant grade and managerial positions, as well as proportionally younger female doctors, and more female doctors who work part-time. In the general population across all sectors the gender pay gap is 14.2%. In other words, all women in 2016 worked for free between 10 November and 31 December 2016 (The Fawcett Society, 2016), and female doctors specifically worked for free from 13 August. This pay gap is likely to have a significant impact on job satisfaction and the morale of female doctors. The recently-introduced UK NHS junior doctor contract included an equality assessment by the Department of Health (DoH, 2016) acknowledging that women will be further disproportionately financially affected. Lower pay for female doctors increases the length of time required to pay off their significant student debt; increased debt has been shown in medical students to have a significant association with suicidal ideation in the past year (Dyrbye *et al*, 2008). The implication that women (and women doctors) are worth less is unlikely to improve motivation and mental health.

### **Male-centric leadership in the NHS**

Despite women having equivalent career motivation (Barnett, 1998), leadership in the NHS is predominantly male. Women make up only 24% of medical directors and 36% of chief executives (Newmann, 2015). Jane Dacre, the president of the Royal College of Physicians, has stated that this is not true of elected positions of leadership and therefore may be due to 'unconscious bias' (Rimmer, 2017). A system created by men creates a system for men: a male-centric hierarchy produces leadership roles, awards

and salaries that in turn are more likely to benefit men. This 'male thinking' was keenly demonstrated when the government's own equality impact report on the new junior doctor contract acknowledged it would 'impact disproportionately on women' but that the 'impact would be justifiable legally as an indirect impact resulting from a legitimate aim' (DoH, 2016).

The immediate pastoral support available at university before starting work is perhaps less obviously available to junior doctors. Even where it is available, does a mostly male-dominated leadership feel comfortable discussing potentially personal issues with young female colleagues? Junior doctors, especially women, experience worrying amounts of bullying: 43% of female juniors and 32% of male juniors' report being bullied in the previous year (Quine, 2002).

### **The role of scrutiny, the press and external regulation**

There is undoubtedly increased regulatory and media scrutiny of doctors' shortcomings and mistakes, and in the UK, a legal duty to admit errors to patients, carers and colleagues (Williams and Lees, 2015). This adds an extra dimension to the fear of making an error. The press can celebrate the life-saving hard work of doctors on an individual level, but it can also accuse doctors of selfishness, greediness, and being individually culpable for systemically-driven mistakes due in general to UK budgetary restraint. The UK regulator of the medical profession, the General Medical Council, highlighted current concerns in its 2016 review of current medical practice and education that doctors have had low morale for many years, but 'the levels of dissatisfaction now being expressed suggest that this is of a different order' (GMC, 2016). This all fuels a culture of blame rather than learning from mistakes, which in turn cultivates perfectionism and leaves doctors struggling to live up to their own unattainable goals. The General Medical Council, the regulator for doctors, found that 28 doctors died from suicide while under investigation between 2005 and 2013 (Horsfall, 2014).

### **Whistleblowing pressures**

As well as a professional duty to blow the whistle on yourself and admit your own shortcomings, there is also a professional duty to raise concerns about other colleagues who may be harming patients due to their own mental ill health, inability to cope, or skills and attitudinal shortcomings. This has created an additional pressure on frontline staff to 'police' themselves and to raise concerns, but this comes with an inherent potential danger of damaging careers falsely. Junior doctors may be ideally placed to spot safety problems in the NHS but when they raise concerns it can appear to harm their career progression.

Doctors have a reluctance to admit personal illness and take a third of the sick days of other NHS staff

### **Doctors, the high demands they place on themselves, and societal pressure: 'tough enough to cope, yet kind enough to care'**

A high public expectation of an idealised doctor, all knowing and unable to make mistakes, feeds into a doctor's own perfectionistic expectations. Culturally, doctors are still expected to cope with whatever the life and work yields. Doctors have a reluctance to admit personal illness and take a third of the sick days of other NHS staff (ONS, 2016b). 59% of doctors felt that being a patient would cause them embarrassment (Blue Beyond, 2013). Other barriers to seeking help for mental health concerns include lack of confidentiality, impact of professional registrations, lack of time, and concern about an impact on their career (Blue Beyond, 2013). This self-driven stigma also feeds into personal guilt that taking time off will impact on colleagues and patients negatively. This can create a culture of presenteeism where there is fear to acknowledge personal illness, especially related to mental health.

### **Strategies and interventions for improving life as a doctor**

We could approach support of young female doctors in two ways: a targeted approach where we focus on specialties that are perhaps less flexible, less traditionally family friendly or more male-dominated (eg general surgery, emergency medicine), or focus on the women involved themselves. The advantage of these targeted interventions is that superficially they appear to cost less. An alternative view is that we should focus on all trainees from all specialties and genders in a universal approach. All doctors are asking for an improved work-life balance, and universal approaches prevent (inadvertently) reinforcing gender division thereby promoting equality and parity between all sectors of junior doctors. Furthermore, the situation surrounding general low morale, stress and burnout in junior doctors is complex, and therefore focusing on individuals can only ever be part of the solution.

We also need team, departmental, organisational and policy responses, in the wider NHS and for each specialty. Both individual-focused and organisational strategies can result in clinically meaningful reductions in burnout among physicians (West *et al*, 2016). We must also ensure that those doctors who become adversely affected by stress or develop health problems or suicidality are not



blamed. They must not be made to feel that the solution to their problem is a generic 'emotional resilience' course.

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If working conditions and practices are toxic, self-care and resilience can only go so far to mitigate the situation. Developing helpful emotional, social and cognitive resources and reducing unhelpful stress responses or behaviours will protect to a varying degree; it is important to promote these factors but we must tackle the problem at its source. We must identify and respond to the evidence of increasing adverse emotional impact of work on our colleagues, and just like the 'canary in the mine', use it as an early warning system heralding the need for improvements.

### How could we intervene?

Greater understanding of doctor suicides and the aspiration to make doctor suicide a never event

We need a greater understanding of the impact of work-related pressures in terms of doctor suicide. A recent editorial in the BMJ called for suicide to be included among work-related causes of death. The authors suggested that all suicides by junior doctors should be 'identified and investigated, including an explicit focus on the role that workplace pressures may have played' (Clarke and McKee, 2017). All doctor suicides need investigating, irrespective of age or seniority, however work stress cannot be the wholly responsible, as it does not explain the gender differences found in doctor suicides compared to the general population. Following two separate psychological autopsy studies, prevention of doctor suicide requires a range of strategies including improved recognition and management of psychiatric and physical disorder, measures to reduce occupational stress, and restriction of access to means of suicide when doctors are depressed (Lindemann *et al*, 1999, Hawton *et al*, 2004).

Organisational changes to working conditions including increasing flexibility in training

Simple changes to the training structure for all junior doctors would result in a significant positive impact on morale. A variety of external bodies have supported this and made suggestions for change.

### Box 1: Practical suggestions to improve the impact of medical training

The Royal College of Psychiatry's recent report recommended that the 'basic needs of trainees should be met' (RCPsych, 2017), including an hour of supervision a week and the ability to peruse clinical interests. Currently, a quarter of psychiatry trainees are unable to access a hot drink and three quarters unable to access a hot healthy meal 24 hours a day. Furthermore, training posts and the design of the programme, instead of intensifying pressure on young women and their families, should be designed to support them.

Part-time working should be available to all to improve work-life balance. The GMC (2017) has recently published a document promoting that flexibility be increased in postgraduate training. This follows, the Royal College of Emergency Medicine (RCEM, 2017) piloting less than full time training for all their ST3+ trainees from August 2017. Currently taking time out of training is burdensome and affects career progression, but the gender-specific impact of this would be reduced if it is easily available to all trainees.

Ready access to appropriate health provision and doctor-specific support including mentoring

Doctors are very reluctant to seek help for mental health problems and even if they are willing to do so some struggle to access their GP and some doctors who move regularly may not even have a GP. There is also a culture of denial regarding their own health needs (Godlee, 2008). There are also workforce challenges for occupational health with a 'real concern that occupational health has not changed sufficiently to meet changed expectations' and needs of today's doctors (NHS Plus, 2012). Nearly a third of doctors have a form of mental disorder, yet for many it is a shameful secret, because of the deep stigma towards mental illness prevalent within the medical profession (Godlee, 2008).

We also need a concerted effort for doctors and colleagues of all grades to reject the 'macho tough culture' for a more compassionate and supportive one. Teams can replace the fear and blame culture with one of continuous learning, universal knowledge of human factors errors and ways to mitigate them, and open disclosure. Making team debriefings regular instead of solely post-crisis can help facilitate this

All doctors should be encouraged to have a mentor in the workplace, and for juniors this should be someone unrelated to career progression. All team leaders should make a habit of asking members of the team how they are, and take time to listen to the answers. Many people who get depressed have a vicious cycle of negative thoughts and lies that can only be broken by the compassionate intervention of another person. All doctors should have the option of developing strategies for self-care and a safety plan if they start to struggle.

The use of a safety plan for doctors in distress

A quarter of junior doctors have suicidal ideation at some point during their careers (Blue Beyond, 2013). Therefore, a safety plan for doctors in any difficulty, and potentially for every junior doctor, is an important consideration for postgraduate educational supervisors.

6 A safety plan for doctors is an important consideration for postgraduate educational supervisors

### Box 2: The safety plan

A safety plan is a set of actions, strategies and people to contact to help the individual to remain safe if they find themselves thinking of suicide or harming themselves. It will also include the names of family and friends who can support them as well as third sector organisations, specific doctor support organisations and health professionals if required. In developing emotional, cognitive and social resources, and essential elements of emotional resilience and safety planning, doctors will need to be honest about their own humanity and vulnerability, which will start to alleviate the stigma of doctors being unwell and needing help (more information on how to make a safety plan is available in the list of resources).

Promote doctor-specific and general supportive external resources

Doctors have a unique set of barriers accessing healthcare. Details of tailored support covering doctors of all genders, specialties and ages are listed in Box 2. However, doctors are equally entitled to support from non-medical associations and these should also be offered by supporters.

### Box 3: Specific useful information for doctors in distress and those supporting them

**Doctor Support Service** available to all doctors irrespective of BMA membership if a complaint has been made to the GMC. Support is available from the initial complaint until the outcome of the case.

**DocHealth** is a confidential, not-for-profit, psycho-therapeutic consultation service for all doctors. Although located in London the service is open to all doctors in the UK. For doctors living a considerable distance from London they can offer follow up by Skype, after the initial face-to-face consultation. Supported by the British Medical Association (BMA) and the Royal Medical Benevolent Fund (RMBF).

The **Practitioner Healthcare Programme** significantly reduces these barriers, by offering confidential medical care to doctors who may struggle to access confidential care because of the nature of their work. Furthermore, they have an agreement with the General Medical Council which means they can treat doctors with substance misuse issues without informing them of individual cases (with certain exceptions).

In response to the low morale experienced by junior doctors during the UK junior doctors strikes in 2016, a social media group **Tea and Empathy** on Facebook was created.

Female doctors also have the option of support from local and national networks, including the **Medical Women's Federation**, which is celebrating its 100th anniversary this year.

### Box 4: Useful information for all people in distress and those supporting them

**Samaritans** 24/7 call free from any phone on 116 123

**Staying Safe** online resource to offer hope, compassion and practical ideas on how to find a way forward and how to make a Safety Plan

[www.connectingwithpeople.org/StayingSafe](http://www.connectingwithpeople.org/StayingSafe)

**Dear Distressed:** Poignant and compelling letters of hope and recovery written by people with lived experience to reach and help others who are struggling with some much-needed hope [connectingwithpeople.org/wspd16](http://connectingwithpeople.org/wspd16)

**Tips on self-care**

[connectingwithpeople.org/content/mhaw17](http://connectingwithpeople.org/content/mhaw17)

Reduce gender inequality in medicine

Much more needs to be done to ensure women feel as valued as men. A part of this is that women need to have a greater role in leadership and shaping the NHS. This can be aided by promoting role models and offering mentoring to identify skills and experience that trainees will need to progress. The Women in Surgery Programme by the Royal College of Surgeons is a good example of this, however these programmes need to exist for a much wider range

of leadership roles and specialties. The pay of an employee represents their value to the organisation and therefore the gender pay gap needs to be tackled.

Promote self-care, and the potential role of wellbeing and emotional resilience training

The General Medical Council has recommended that 'emotional resilience training is a regular and integral part of the medical curriculum' (Horsfall, 2014). Wellbeing, as defined by the World Health Organization (WHO, 2014a), is when someone 'realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community'. Medicine can be a stressful job although it is important to highlight that emotional resilience is not about 'mental toughness'. One of the authors, Cole-King (2015) stated that:

*'Emotional resilience is about adaptive coping skills, understanding and managing one's emotions and seeking social support to enable the ability to 'bounce back' or even experience post-adversity growth following a stressful event. It is not only the ability to cope with stress but being able to thrive and flourish even in difficult circumstances. It is not about asking doctors to 'grin and bear it' and to handle intolerable organisational pressures or excessive workloads. Neither is it about the naming and shaming of "weak" doctors for not being tough enough to cope with the pressures placed upon them. Quite the opposite, in fact.'*

Cole-King also advocates that medical students are taught about the emotional burden of caring and that self-care is given equal status to other areas of patient safety in the undergraduate and postgraduate curriculum.

As part of this self-care for doctors, we should encourage interests outside medicine, interaction with non-medical family, friends and pets, and ensuring adequate rest, nutrition and hydration.

## Conclusion

In the WHO 2014 report *Preventing suicide: A global imperative* Dr Margaret Chan, Director-General of the World Health Organization, encourages the view that suicide is preventable (WHO, 2014b). Encouraging help-seeking behaviour, rapid access to effective treatments, hopefulness, identifying reasons for living, and removal of access to means can contribute to suicide prevention. Suicide is also rare event and we must keep this in perspective. Doctors and medical students suffer intense pressure, but it is not inevitable that their mental health must also suffer. If doctors worked in optimal clinical conditions which facilitated excellent patient care, strategically invested in their own wellbeing and showed themselves and their colleagues the same compassion that

they show to patients much suffering could be alleviated. For those that need additional support this should be readily accessible. It is essential that health care providers be available to give the help and support needed. Additionally, considering their perhaps uniquely stressful situation, we should consider if each doctor in training needs a Safety Plan to access in times of distress. Recent tragedies have highlighted this 'perfect storm' for our current workforce. The challenge now is to recognise this problem and the need for urgent action, to prevent future tragedies and improve the wellbeing of the entire workforce.

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Barnett, RC, Carr P, Boisnier AD *et al* (1998) Relationships of gender and career motivation to medical faculty members. *Academic Medicine* 73(2) pp 180–6.

Blue Beyond (2017) *The mental health of doctors: a systematic literature review*. Available at: <http://resources.beyondblue.org.au/prism/file?token=BL/0823> (accessed 3 June 2017).

Blue Beyond (2013) *National mental health survey of doctors and medical students*. Available at: [www.beyondblue.org.au/docs/default-source/research-project-files/bl1132-report--nmhdms-full-report\\_web](http://www.beyondblue.org.au/docs/default-source/research-project-files/bl1132-report--nmhdms-full-report_web) (accessed 4 May 2017).

Campbell D (2017) Two-thirds of young hospital doctors under serious stress, survey reveals. [online] *The Guardian*. Available at: [www.theguardian.com/uk-news/2017/feb/11/stressed-out-doctors-anaesthetists-survey-nhs](http://www.theguardian.com/uk-news/2017/feb/11/stressed-out-doctors-anaesthetists-survey-nhs) (accessed 31 May 2017).

Clarke R, McKee M (2017) Suicides among junior doctors in the NHS. *British Medical Journal*, 357, i2527.

Cole-King A (2015) *Doctors under pressure need resilience, not mental toughness*. Available at: <https://gmcuk.wordpress.com/2015/07/15/doctors-under-pressure-need-resilience-not-mental-toughness/> (accessed 25 May 2017).

Criddle C (2016) Family of junior doctors Rose Polge says fear of professional future and long hours contributed to suicide. *The Telegraph* [online]. Available at: [www.telegraph.co.uk/news/2016/07/27/family-of-junior-doctor-rose-polge-says-fear-of-professional-fut/](http://www.telegraph.co.uk/news/2016/07/27/family-of-junior-doctor-rose-polge-says-fear-of-professional-fut/) (accessed 27 June 2017).

Dyrbye L, Thomas MR, Massie FS *et al* (2008) Burnout and suicidal ideation among US medical students. *Annals of Internal Medicine* 149(5) pp 334.

Department of Health (DoH) (2016) *Equality analysis on the new contract for doctors and dentists in training in the NHS*. Available at: [www.gov.uk/government/publications/junior-doctors-contract-equality-analysis-and-family-test](http://www.gov.uk/government/publications/junior-doctors-contract-equality-analysis-and-family-test) (accessed 8 May 2017).

General Medical Council (GMC) (2017) *Adapting for the future: a plan for improving the flexibility of UK postgraduate medical training* [online]. Available at: [www.gmc-uk.org/Adapting\\_for\\_the\\_future\\_a\\_plan\\_for\\_improving\\_the\\_flexibility\\_of\\_UK\\_postgraduate\\_medical\\_training\\_FINAL.pdf\\_69842348.pdf](http://www.gmc-uk.org/Adapting_for_the_future_a_plan_for_improving_the_flexibility_of_UK_postgraduate_medical_training_FINAL.pdf_69842348.pdf) (accessed 31 May 2017).

General Medical Council (GMC) (2016) *The state of medical education and practice in the UK: 2016* [online]. Available at: [www.gmc-uk.org/SOMEPE\\_2016\\_Full\\_Report\\_Lo\\_Res.pdf\\_68139324.pdf](http://www.gmc-uk.org/SOMEPE_2016_Full_Report_Lo_Res.pdf_68139324.pdf) (accessed 26 June 2017).

General Medical Council (GMC) (2015). *The state of medical education and practice in the UK: 2015* [online]. Available at: [www.gmc-uk.org/publications/somep2015.asp](http://www.gmc-uk.org/publications/somep2015.asp) (accessed 31 May 2017).

- Godlee F (2008) Doctors' health matters. *BMJ* 337 a2527–a2527.
- Hawton K, Clements A, Sakarovich C, Simkin S, Deeks JJ (2001). Suicide in doctors: a study of risk according to gender, seniority and specialty in medical practitioners in England and Wales, 1979–1995. *Journal of Epidemiology and Community Health* 55 pp 296–300
- Hawton K, Malmberg A, Simkin S (2004) Suicide in doctors: a psychological autopsy study. *Journal of Psychosomatic Research* 57 pp 1–4.
- Horsfall S (2014) *Doctors who commit suicide while under GMC fitness to practise investigation*. GMC [online]. Available at: [www.gmc.uk.org/Internal\\_review\\_into\\_suicide\\_in\\_FTP\\_processes.pdf](http://www.gmc.uk.org/Internal_review_into_suicide_in_FTP_processes.pdf) 59088696.pdf (accessed 25 May 2017).
- Hughes D, Clarke V (2016) *Thousands of NHS nursing and doctor posts lie vacant*. BBC News [online]. Available at: [www.bbc.co.uk/news/health-35667939](http://www.bbc.co.uk/news/health-35667939) (accessed 5 May 2017).
- Jamieson S (2017) Junior doctor who spoke of pressures of A&E work found dead. *The Telegraph* [online]. Available at: [www.telegraph.co.uk/news/2017/04/03/junior-doctor-spoke-pressures-ae-work-found-dead/](http://www.telegraph.co.uk/news/2017/04/03/junior-doctor-spoke-pressures-ae-work-found-dead/) (accessed 26 June 2017).
- NHS England (2014) *NHS five year forward view*. Available at: [www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf](http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf) (accessed 4 May 2017).
- Lindemann S, Henriksson M, Isometsä E, Lönnqvist J (1999). Treatment of mental disorders in seven physicians committing suicide. *Crisis* 20(2) pp 86–89.
- Mason, R (2017) Jeremy Hunt angers junior doctors by saying some are paid 'danger money'. *The Guardian* [online]. Available from [www.theguardian.com/society/2015/oct/30/jeremy-hunt-angers-junior-doctors-by-saying-some-are-paid-danger-money](http://www.theguardian.com/society/2015/oct/30/jeremy-hunt-angers-junior-doctors-by-saying-some-are-paid-danger-money) (accessed 12 May 2017).
- Milner A, Maheen H, Bismark M, Spittal M (2016) Suicide by health professionals: a retrospective mortality study in Australia, 2001–2012. *The Medical Journal of Australia* 205(6) pp 260–265.
- Newmann P (2015) *NHS women in leadership: plan for action*. NHS Employers [online]. Available at: [www.nhsemployers.org/news/2015/12/nhs-women-in-leadership-report](http://www.nhsemployers.org/news/2015/12/nhs-women-in-leadership-report) (accessed 5 May 2017).
- NHS Plus (2012) *A future NHS occupational health workforce*. Available at: [www.nhshealthatwork.co.uk/images/library/files/Bulletin%20July12/DH\\_Workshop\\_report\\_Final.pdf](http://www.nhshealthatwork.co.uk/images/library/files/Bulletin%20July12/DH_Workshop_report_Final.pdf) (accessed 5 June 2017).
- Office for National Statistics (ONS) (2017) *Suicide by occupation, England: 2011 to 2015*. Available at: [www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/suicideby-occupation/england2011to2015](http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/suicideby-occupation/england2011to2015) (accessed 4th May 2017).
- Office for National Statistics (ONS) (2016a) *Suicides in the UK: 2015 registrations*. Available at: [www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunited-kingdom/2015registrations](http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunited-kingdom/2015registrations) (accessed 4 May 2017).
- Office for National Statistics (ONS) (2016b) *NHS sickness absence rates – April 2016 to June 2016*. Available at: <https://www.gov.uk/government/statistics/nhs-sickness-absence-rates-april-2016-to-june-2016> (accessed 8 May 2017).
- Office for National Statistics (ONS) (2016c) *Occupation (4 digit SOC) – ASHE: Table 14*. Available at: [www.ons.gov.uk/employmentandlabour-market/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashtable14](http://www.ons.gov.uk/employmentandlabour-market/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashtable14) (accessed 26 June 2017).
- Quine L (2002) Workplace bullying in junior doctors: questionnaire survey. *BMJ* 324(7342) pp 878–879.
- Rimmer A (2017) Do we still need to tackle discrimination against women in medicine? *BMJ Careers* [online] Available at: [http://careers.bmj.com/careers/advice/Do\\_we\\_still\\_need\\_to\\_tackle\\_discrimination\\_against\\_women\\_in\\_medicine%3F](http://careers.bmj.com/careers/advice/Do_we_still_need_to_tackle_discrimination_against_women_in_medicine%3F) (accessed 8 May 2017).
- Robertson IT, Cooper CL, Sarkar M, Curran T (2016) Resilience training in the workplace from 2003 to 2014: a systematic review. *Journal of Occupational and Organizational Psychology* 88(3) pp 533–562.
- Royal College of Emergency Medicine (RCEM) (2017) *Opportunities for higher emergency medicine less than full time training*. Available at: [www.rcem.ac.uk/docs/Training/Opportunities%20for%20Higher%20EM%20LFT%20Pilot%20Project\\_Guidance.pdf](http://www.rcem.ac.uk/docs/Training/Opportunities%20for%20Higher%20EM%20LFT%20Pilot%20Project_Guidance.pdf) (accessed 10 May).
- Royal College of Physicians (RCP) (2017) *Exam pass rates*. Available at: [www.mrcpuk.org/mrcpuk-examinations/results/exam-pass-rates](http://www.mrcpuk.org/mrcpuk-examinations/results/exam-pass-rates) (accessed 9 May 2017).
- Royal College of Physicians (RCP) (2016a). *Mission: health. Being a junior doctor: Experiences from the front line of the NHS*. Available at: [www.rcplondon.ac.uk/guidelines-policy/being-junior-doctor](http://www.rcplondon.ac.uk/guidelines-policy/being-junior-doctor) (accessed 5 May 2017).
- Royal College of Physicians (RCP) (2016b) *Mission: health. Underfunded, underdoctored, overstretched: The NHS in 2016*. Available at: [www.rcplondon.ac.uk/guidelines-policy/underfunded-underdoctored-overstretched-nhs-2016](http://www.rcplondon.ac.uk/guidelines-policy/underfunded-underdoctored-overstretched-nhs-2016) (accessed 10th May 2017).
- Royal College of Psychiatrists (RCPsych) (2017) *Supported and valued*. Available at: [www.rcpsych.ac.uk/pdf/Supported\\_and\\_valued\\_final\\_20\\_April.pdf](http://www.rcpsych.ac.uk/pdf/Supported_and_valued_final_20_April.pdf) (accessed 8th May 2017).
- Stanton J, Caan W (2003) How many doctors are sick? *BMJ* 326 s97–s98.
- Student BMJ (2015) *Medical students with mental health problems do not feel adequately supported*. Available at: [www.bmj.com/company/wp-content/uploads/2014/07/student-bmj-survey.pdf](http://www.bmj.com/company/wp-content/uploads/2014/07/student-bmj-survey.pdf) (accessed 4 May 2017).
- The Fawcett Society (2016) *The gender pay gap*. Available at: [www.fawcettsociety.org.uk/policy-research/the-gender-pay-gap/](http://www.fawcettsociety.org.uk/policy-research/the-gender-pay-gap/) (accessed 8 May 2017).
- The Lancet (2017) Suicide among health-care workers: time to act. *The Lancet* 389(10064) 2.
- Weetman, T, Bell C, Edbon L *et al* (2014). *Selecting for Excellence Final Report*. Available at: [www.medschools.ac.uk/SiteCollectionDocuments/Selecting-for-Excellence-Final-Report.pdf](http://www.medschools.ac.uk/SiteCollectionDocuments/Selecting-for-Excellence-Final-Report.pdf) (accessed 26 June 2017).
- West C, Dyrbye L, Erwin P, Shanafelt T (2016) Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. *The Lancet* 388 pp 2272–81.
- Williams H, Lees C (2015) A turning point for medical regulation [online] *BMJ Careers*. Available at: [http://A\\_turning\\_point\\_for\\_medical\\_regulation](http://A_turning_point_for_medical_regulation) (accessed 26 June 2017).
- The World Health Organization (2014a) *Mental health: a state of wellbeing*. Available at: [www.who.int/features/factfiles/mental\\_health/en/pp](http://www.who.int/features/factfiles/mental_health/en/pp) (accessed 26 June 2017).
- The World Health Organization (2014b) *Preventing suicide: A global imperative*. Available at: [www.who.int/mental\\_health/suicide-prevention/world\\_report\\_2014/en/](http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/) (accessed 1 July 2017).