



Creating a Culture of Care

Junior doctor well-being in hospital settings

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A review of the scientific
literature for the
Royal Australian College
of General Practitioners



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Project objective

To investigate the culture of support available to doctors during their internship and resident medical officer (RMO) years (post-graduate year 1-PGY1 and PGY 2) within the hospital system in the context of a workforce shortage.

Researcher's brief

Examine: The culture; trends and mechanisms used by hospitals to provide support to interns and (Registered Medical Officer) RMO doctors.

Complete a 3,000-word literature review on institutional culture regarding the factors that affect postgraduate years 1 and 2 doctors (junior doctors) in hospital settings that impact on their health and well being. Professional Peer Support is one of the strategies of providing support but there are others within the hospital system such as task allocation strategies to reorganise, prioritise and delegate work to other hospital staff. The human resources including the staffing mix within the hospital system could also be a system used by hospitals to provide support. This project requires an overview of national and international literature relating to the presence and availability of support structures, programs and mechanisms for junior medical staff including relevant organisational psychology.

Future directions of the project

This literature review is intended to feed directly into an ARC grant application for research to survey support programs and institutional culture across Victorian medical schools and hospitals. In the second stage of the project it may include additional material (1500 words) relating to management models and culture into the report provided by Professor Sarros of Monash University. This completed report would be of a suitable standard and quality to be utilised, if required, as the initial part of the research outline for the ARC grants application process, allowing the remainder of the application to cover research methodology, collaboration and outcomes.

Summary of findings

Despite a strong body of evidence suggesting high levels of stress and resultant poor emotional health of interns and junior doctors overseas, there has been little research on this issue in Australia. Further research is required to establish what normal working conditions are for junior doctors in Australia and the effect of these conditions on their well-being.

Key issues for junior doctors identified in the literature include lack of support and lack of training. Recent efforts to improve the working conditions of interns (in particular restrictions to working hours) vary in their effectiveness because of the unforeseen consequences for patient care and consultant workload, both of which may negatively impact on intern experience. The need for a systems-based approach to institutional reform is strongly supported by the literature.

Key areas which would benefit from further investigation include organisational and interpersonal support structures, including training both for interns and residents. There is evidence that interventions offering support for interns and residents have beneficial outcomes for the broader teams within hospitals, for patients and for medical students. While the future benefits of such processes for practicing doctors have yet to be assessed, it seems likely that improvements to the institutional culture training practitioners to adopt a more balanced approach to patient care and self-care can only be beneficial for both junior doctors and for the health of their future careers.

Scope of Review

The importance of support for improving and maintaining the emotional well-being of medical practitioners has been widely recognised in Australia as evidenced by the RACGP's recent publication *Keeping the doctor alive: a self-care guidebook for medical practitioners* (Clode and Boldero 2006). The *Conspiracy of Silence* review (Clode 2004) into the health of medical practitioners identified medical training as a key area for improvement in emotional well-being. The suicide of a trainee surgeon in Melbourne in March 2006, just nine months after the suicide of an intensive care registrar, highlighted public concerns about the workload pressures of postgraduate training and the failure to recognise or identify people at risk from such potentially fatal pressures.

Medical students and interns are regarded as being emotionally vulnerable for a number of reasons (e.g. Lee 1998). Internship, in particular, is recognised as being a highly stressful time for medical trainees and a potential source of many future poor practice habits in balancing self-care and patient-care. Physical safety factors are also likely to contribute to emotional well-being for junior doctors, however they are beyond the scope of this literature review.

Louie et al. (2007) recently described the practical training component of medicine as being characterised by self-sacrifice, with associated sleep deprivation, fatigue and stress. Such self-sacrifice may be seen by the medical profession as proof of a doctor's devotion to patient care (Louie et al. 2007), making it very difficult for anyone (let alone a junior doctor-in-training) to complain or strike a more balanced path between self-care and patient-care.

The intern year has historically been seen as a trial of spirit and stamina and a primary initiation rite and represents an initiation into a challenging career where a stoic work ethic is the dominant culture and personal needs are secondary to the needs of both patients and employers.
Willcock et al. 2001

Despite increasing concerns over the emotional health of medical practitioners at all stages of their career, and particularly during training, this ingrained historical attitude towards self-sacrifice perpetuates itself. The following general competency standard in professionalism adopted by the American Accreditation Council for Graduate Medical Education explicitly calls for the patient's (and society's) needs to be placed above the personal needs of the practitioner. There is no reference to self-care or the balance of professional and personal lives in any of the competency standards provided by the ACGME.

Residents are expected to demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that *supersedes self-interest* ... (italics added) *ACGME, 1998*

The guiding principles for Australian medical practitioners are, fortunately, quite different, reflecting a much greater recognition that doctors must care for themselves as much as their patients. Thus the AMA's Code of Ethics is based upon the concept that "The doctor-patient relationship is itself a partnership based on mutual respect and collaboration. Within the partnership, both the doctor and the patient have rights as well as responsibilities" with section 2.1 explicitly exhorting practitioners to "(f) Accept responsibility for your psychological and physical well-being as it may affect your professional ability." (AMA 2006)

This review seeks to identify published literature, nationally and internationally, documenting the culture of support for interns and junior doctors and the success of programs trialled to improve the conditions and well-being of medical interns.

The Nature of the Problem

After completing their medical degree, most graduates (either overseas or in Australia) enter a twelve to twenty-four month period of supervised practical training, usually in a major teaching hospital before being eligible to practice medicine. The length and nature of this supervision differs by country and sometimes by specialty. These pre-registration graduates are variously known as interns, trainee residents and junior house doctors. Shorter practical training for students in hospitals include clerkships.

Early work on the emotional health of medical practitioners identified internship as particularly stressful as newly graduated doctors emerge from university into professional life with varying support and supervision. The emotional health of junior doctors is complex and compounded by variables such as management, clinical imperatives and the learning experience. The intern may at times have similar responsibilities and workload as a senior member of staff, but without necessarily having the same level of experience or practice. Such experience not only includes medical practice, but also organisational skills of delegation and time management and personal skills of self-care, support and boundary setting.

Taking up a position of responsibility as a junior house doctor increased anxiety insomnia and somatic symptoms in thirty UK house doctors surveyed by Houston and Allt (1997). More recently, Bogg et al. (2001) surveyed fifty-six house officers in north-west England just before registration and found one quarter were burnt out. Similarly, almost thirty-eight percent of women and twenty-four percent of male pre-registration English house doctors showed signs of psychological stress (Newbury-Birch and Kamali 2001). Seventy percent of UK junior doctors surveyed by Lambert et al. (2000) felt they worked excessive hours and had insufficient time for their families or social activities.

A study of Norwegian “context physicians” found that over seventeen percent reported mental health problems (Tyssen et al 2001). The potential for poor emotional health may be even higher in non-western countries with higher workloads and poorer working conditions. Assadi et al. (2007) found that levels of psychiatric morbidity among Iranian medical students, interns and doctors was very high with forty-four percent scoring over the threshold on the General Health Questionnaire for a psychiatric disorder, compared to around eighteen percent in the general population. Psychiatric morbidity in this study was highest among students and among women (Assadi et al. 2007).

Similar results have been found for American and Canadian doctors. Hsu and Marshall (1987) found that thirty-two percent of Canadian interns (and thirty-eight percent of female interns) were depressed (scoring sixteen plus on the Center for Epidemiologic Studies Depression Scale or CES-D, compared to around fifteen percent in community studies). Another study found that over twenty percent of American postgraduate residents averaged five hours of sleep or less per night, with over sixty-six percent averaging six hours or less (Baldwin and Daugherty 2004). Seventy-six percent of American residents studied by Shanafelt et al. (2002) exhibited signs of burnout and half met the criteria for depression.

Given high levels of emotional ill-health among medical students and medical practitioners generally, and the fact that the intern years are regarded as the most stressful, it seems likely that Australian interns would face similar burdens of emotional ill-health as their overseas counterparts. However few studies have been conducted in Australia.

Willcock et al. (2004) found that psychological morbidity (as measured on the GHQ) and burnout (as measured on the Maclach scale) significantly increased over the intern year for Australian interns. Bruce et al. (2003) reported that during their first year, many interns feel run-down, lack energy and suffer from poor sleep. However in a study of New South Wales interns from 1987-1990, Hume and Wilhelm (1994) found self-reported psychological morbidity to be low. There is a clear need for further work in this area using standardised comparable measures of emotional health and a normative control group to assess meaningful levels of emotional health and well-being among junior doctors.

Does it last?

Given the broader issue of emotional ill-health among both medical students and medical practitioners, we need to examine how emotional health changes during and after the intern year. Several studies have found that depression and burnout peak during the intern year, but that this effect is only temporary. For example in Hsu and Marshall (1987) depression was high for Canadian interns before decreasing in residents and research fellows.

A cross sectional study of Turkish medical students and physicians, found that while nicotine use was consistent and illicit drug use rare across all groups, the use of sedatives-hypnotics and alcohol rose with seniority (see table). Anxiety was highest among junior students and residents. Although depression peaked among senior medical students and residents, it dropped dramatically among physicians (Akvardar et al. 2004). Arguably, these patterns might suggest that entering a new career phase (as a junior student or resident) raises anxiety levels. Anxiety and depression decrease as coping skills improve, however the steady increase in drug use with seniority suggests the coping skills employed may not be entirely desirable ones.

Anxiety, depression and drug use among Turkish medical students and physicians (Akvardar et al. 2004)

	Junior Students	Senior Students	Residents	Physicians
Sedative-hypnotics in last year	0.0	3.8	8.2	11.3
Alcohol in last year	57.0	59.6	79.5	82.5
Anxiety	23.6	11.6	19.2	16.3
Depression	28.6	44.0	40.0	13.8

Bellini et al. (2002) found that while interns began their internship with enthusiasm, within just five months their levels of depression-dejection, anger-hostility, fatigue-inertia and personal distress had increased significantly. These changes stayed with them for the remainder of the internship. Similarly Clark et al. (1984) found that twenty-seven percent of first year American medical interns developed depressive syndrome in the first six months of their internship. In the Australian context, Bruce et al. (2003) found that stress and ill-health peaked mid-year for interns compared to the beginning and end of their terms.

There is evidence, however, that the stresses of the internship are not long-lasting. In the course of their training, many medical practitioners develop the skills and experience necessary to cope with the difficulties of their profession. Girard et al. (1991) found that among US interns, the strongly negative emotions and attitudes they developed during their internship had significantly improved by the end of their residencies. Palliative care, for example, is widely recognised as one of the most emotionally difficult areas of medical care, particularly for newly graduated professionals. FirthCozens and Field (1991) found that medical students cope with, and reduce, their fear of death during their internship through rationalising (often used by men) and supporting the patient (often used by women).

It seems likely that such improvements in emotional well-being relate to the increased resilience and coping strategies of the interns, rather than any improvements in working conditions. For example, Kapur et al. (1998) found that while junior house officers reported generally worse working conditions than consultants, consultants reported longer working hours, greater work demands and had greater psychological morbidity on the General Health Questionnaire. Working conditions probably don't improve dramatically after completing the intern year, but the intern has become accustomed to dealing with such conditions and accepts them as the norm for the remainder of their working life.

Personality Factors

The cause of emotional ill-health during the intern year, like that of other stages of a medical career, may be internal or external. Internal causes have their origin in either the personality traits associated with the entry requirements of universities into a medical course or the characteristics of those who choose medicine as a career. For example, choosing to study medicine may be characterised by a high level of empathy for others and yet empathy scores may also correlate with reactive depression (e.g. Gawronski and Privette 1997).

A small body of research has argued that many medical practitioners have a family history of psychological illness such as depression, alcoholism or neuroses (e.g. Vaillant et al. 1972; Pitts et al. 1961). Pitts et al. (1979) attributed their finding of elevated suicide risk among female doctors to an “association between affective disorder and selection of a medical education and career by U. S. women”. Medical students, as a group, tend to be academic high-achievers who may have a tendency towards perfectionism and a high internal locus of control.

Irrespective of whether medical students have a higher incidence of personality traits that predispose them to psychological illness, there is evidence that certain personality traits do increase the risk of depression. For example, Clark et al. (1984) found that depression was associated with parental history of depression and neuroticism scores, rather than workload. Similarly, Tyssen et al. (2001) found that of the 17.2% of interns who reported mental health problems, many were associated with previous problems and with measures of neuroticism. A similar finding has been reported by Newbury-Birch and Kamali (2001).

Those who had more depression as students and house officers, tended often to become more empathetic, self-critical and more internal in their attributions than their peers—all desirable attributes for a healthy doctor. *Firth-Cozens (1987)*

While personality is an important component of how individuals react to differing levels of stress, it is not a particularly easy factor to either measure or alter. Indeed, it may not be desirable to do so either as there is no evidence that more resilient individuals necessarily make better doctors. Similarly, personal circumstances that increase the risk of depression (such as family history or living alone, Tyssen et al. 2001) are also difficult to address within the framework of professional practice and institutional cultures. The external factors intersecting with these personality traits and personal circumstances, however, are more readily amenable to modification and have consequently received the lion's share of the research and policy attention.

The issue of hours

Excessive hours, particularly without sleep, have traditionally been seen as the hallmark of the hospital intern. Over 70% of junior doctors surveyed by Lambert et al. (2000) in the UK felt that they worked excessive hours. Bogg et al. (2001) reported an average working week fifty-six hours for house officers north-west England. Overwork and long hours in hospitals have traditionally been the most obvious indicator of intern stress.

When I graduated and became a junior resident (as it was then called) in the early 1960s, I worked about 100-120 hours per week in my first year... it was a stimulating and wonderful experience ... with the continuous and long hours we spent working, we certainly saw everything that it was possible to see in acute and traumatic medicine. *Molloy, 1998*

In a large survey of American residents Baldwin et al. 2003 found that first year postgraduates reported working an average of eighty-three hours per week and second years an average of seventy-six hours (in 1998-99). Daugherty et al. (1998) reported that American trainee residents averaged 56.9 hours on call per week. On average, these hours are higher than those reported by Australian medical practitioners (see below) and certainly higher than the average weekly hours of a full-time employed Australian (forty-one hours per week). Only twenty-four percent of full-time employed Australians working over fifty hours per week (ABS, 2006). While excessive hours are still a problem for Australian interns and other hospital practitioners, Australia could arguably be said to have a longer history and broader cultural ethic of restricting work hours than many other countries.

Average weekly hours of medical specialties (ABS 2002) and selected occupations (ABS 2006) in Australia.

Specialty	Average weekly hours	Selected occupations	Average weekly hours
General practice	47	Managers and Administrators	44.6
Anaesthesia	52	Professionals	36.1
Dermatology	50	Associate professionals	39.5
Diagnostic imaging	50	Trades and related workers	39
Internal medicine	55	Advanced clerical and service	27.5
Obstetrics and gynaecology	59	Intermediate clerical, sales and service workers	30.3
Ophthalmology	50		
Paediatrics	58	Intermediate production and transport	38.1
Psychiatry	47	Elementary clerical, sales and service workers	24.2
Surgery	59		
Other	44	Labourers and related workers	29.6
Overall average	52	Total Occupations	34.7

Working more than eighty hours per week has been found to significantly increase the chance of personal injury or accident, interpersonal conflict at work as well as significant medical errors (Baldwin et al. 2003). A recent study by Landrigan et al. (2004) conclusively demonstrated that shorter working shifts substantially reduce the number of serious medical errors by interns in intensive care. Failure to restrict working hours and fatigue is not only likely to increase medical error, but legally amounts to preventable and avoidable neglect which holds medical practitioners and the institutions employing them accountable for this failure (see Nocera and Khursandi 1998; Grunstein and Rogers 2005).

Internationally, resident working hours have been restricted to differing degrees. The US has limited residents to an eighty-hour working week (averaged over four weeks). In France 52.5/hours working week in line with European Working Time directive which aims for a forty-eight hour working week. Canada aims to achieve similar working hour restrictions to those in the US (Woodrow et al. 2006). These restrictions also include limits on the maximum length of shifts and the minimum length of breaks between shifts, which probably even more important for limiting fatigue and fatigue induced errors.

While restricted working hours for interns and residents may prevent overwork and potential medical errors, this also has repercussions for a system of patient care traditionally based on excessively long work-shifts. Ogden et al. (2006) noted that restricted work hours in an American hospital increased patient handovers and reduced the continuity of patient care. Similarly, a study of junior residents and interns at a large American teaching hospital found that while staff appreciated the working hour restrictions, they often found them difficult to adhere to when patient care, teaching or their own learning opportunities might be curtailed (Lin et al. 2006)

Reduced working hours potentially reduce teaching and supervision for interns (Ogden et al. 2006 and Kogan et al. 2006). Arora et al. (2006) found that third year students had less contact with their residents or interns after hours were restricted, but that this did not affect the number of teaching hours or student satisfaction. The fear that shorter hours reduces training opportunities (thereby requiring the internship to be lengthened) was reiterated by Hong Kong surgeons (Lo and Spurgeon 2007) and has also been expressed by Australian practitioners (e.g. Molloy, 1998).

The Safe Work Hours project by the Australian Medical Association provides a thorough review of the issue of intern hours in the Australian setting (see Appendix A) including a Risk Assessment Checklist and National Code of Practice. This major project directly addresses the major concern of patient and doctor safety when working unsafe hours.

Restricted work hours are not the only changing work practice to affect the provision of training in hospitals and continuity of patient care. Shorter patient stay and increased private room care are also changing the way in which continuity of care is delivered as well as the availability of training opportunities. Traditional methods of medical training need to be modified in line changing work practices in the industry as a whole, as well as taking into account the diversity of other factors thought to be important in reducing stress and intern workload.

How important are lifestyle factors?

Lifestyle factors are argued to significantly influence choice of specialty by medical students, making choices like surgery less popular because of a higher perceived level of “uncontrollable” career factors such as working hours, on-call demands etc (Borman 2007). Scott et al. (2007) found that lifestyle was the most important factor in Canadian preclinical students switching their career preference from other specialities to family medicine (general practice). A positive clinical experience however, was a common reason for switching away from family medicine to another specialty. In a recent Australian study of specialty selection, Harris et al. (2005) found that the most significant external factors included “work culture” (72%), “flexibility of working arrangements” (56%) and “hours of work” (54%).

Despite lifestyle factors having been identified as important in specialty selection, Minor et al. (2007) found that the Canadian medical school producing the highest number of surgery applicants also had the worst score for lifestyle factors, providing a generally poor working environment for students. By way of explanation, Minor (2007) suggests “Anecdotally, this institution placed heavy emphasis on mentorship and didactic teaching; it also allowed medical students to write limited orders and gave them more clinical responsibility than many other programs and thus provided students with a sense of ‘making a difference’.”

Firth’s (1986) study of fourth year medical students on placement found that overwork was rarely cited as a cause of stress. Relationships with consultants were the single greatest cause of particularly stressful incidents, with effects on personal life, responsibility and talking to terminally ill patients also rating highly. Stress may be increased through academic pressures to perform as well as personal abuse from consultants and workplace sexism.

A lack of respect

In a survey of over one thousand mid-term American trainee residents, Daugherty et al. (1998) found that fifty-three percent reported being belittled or humiliated by more senior residents. Sixty-three percent of women trainees reported at least one instance of sexual harassment or discrimination. Harassment and abuse have also been reported at high levels among medical students. For example in a Chilean study, most fifth year students surveyed reported verbal or psychological abuse and around one quarter reporting sexual and physical abuse. Teachers were the most common source of verbal and psychological abuse, whereas fellow students were more common sources of sexual and physical abuse (Maida et al. 2003). This research was repeated with similar findings across other years of medical training (Maida et al. 2006).

Reported abuse of medical students (Maida 2003)

Abuse	Example	% of students reporting behaviour
Verbal	Yelled at, cursed at, spoken to in a humiliating way	85.4
Psychological	Humiliated, threatened, ignored	79.9
Sexual	Unwanted advance, sexual names	26.4
Physical	Pushed, hit, threatened with physical abuse	23.6

Consequences

Workload pressures during the intern year may place a great personal strain upon trainee doctors. The inherent pressures and responsibilities of a medical position, combined with the tendencies towards high achievement and perfectionism may also have professional (as well as personal) implications. Houston and Allt (1997) found that the increased stress among thirty UK medical graduates was associated with an increased level of errors, both medical and in everyday life. Similarly, American postgraduate residents who averaged fewer than five hours sleep per night were more likely to have serious accidents, injuries, conflict with other staff, use alcohol and medications to stay awake, experience weight change, feel impaired and make significant medical errors (Baldwin and Daugherty, 2004). Unsafe working hours not only have important consequences for the junior doctors health and well-being, but also impact significantly on patient safety and level of care.

As a modelling experience, it is worth noting that seventy percent of trainee residents surveyed by Daugherty et al. (1998) reported seeing a colleague working in an impaired state, mostly due to lack of sleep. Forty-five percent also witnessed individuals falsifying medical records.

Poor mental health has also been associated with reduced vigor-activity and empathic concern (Bellini et al. 2002). When placed under excessive stress, many people exhibit the characteristics of burnout, particularly depersonalisation, which Mareiniss (2004) found to be associated with unprofessional behaviour. This study of American trainee residents argues that training stress (notably abusive treatment, financial pressure and pessimism about the future) contributes to depersonalisation, depression and burnout. These emotional consequences then tend to manifest in unprofessional behaviour, with potentially disturbing consequences for patient care.

Assessing potential solutions to problems

Over the last thirty years, there have been increasing calls for reforms to the intern program to reduce the burden it places on trainee doctors. Despite improvements, the need for further reforms remains (Bruce et al. 2005). The low level of research into the Australian intern experience makes planned and effective reforms particularly difficult, however the existence of validated survey tools for assessing junior doctor

appraisal may make more systemic surveys of hospital culture and its impacts more useful (Rolfe et al. 1998).

Australian interns responding to Hume and Wilhelm's (1994) survey felt that their intern experience could have been enhanced by better training as undergraduates, particularly "hands-on" clinical experience, career guidance, assertiveness and time management skills. Improvements during the intern period included more registrar teaching, better performance feedback, regular grievance sessions and fewer clerical duties (Hume and Wilhelm 1994).

UK junior doctors also expressed concerns about the relevance of their training with twenty-two percent feeling inadequately trained for their clinical duties and only twenty-three percent agreeing that their postgraduate training was of a high standard (Lambert et al. 2000). Many respondents pointed to poor organisational management as a source of pressure, with a lack of support from hospital management in particular. A study by Bogg et al. (2001) also found that organisation skills and delegation need to be taught at an undergraduate level.

We must provide residents with guidance and tools to be successful, efficient, adult learners, and we must teach by example. Sharing how we manage our personal lives while keeping our professional commitments is as worthy of discussion in a properly selected venue as is sharing our technical tips and tricks in the operating room. Trainees and faculty of both genders can learn from each other personally as well as professionally. *Borman 2007*

Weissman et al. (2006) reviewed a model for training medical residents how to teach students under clinical conditions. The initial seven hour program run at the Institute for Medical Education at the Mount Sinai Hospital in New York, was based on adult learning theory, and consisted of practical teaching techniques, setting goals and expectations, basic teaching theory and feedback. This program was then supplemented with an opportunity to extend discussion and learning about teaching with a faculty mentor. Students on the receiving end of the improved "resident-as-teacher" were enthusiastically responsive to the new teaching approach. Given the importance of positive role models and experiences in the learning environment, the ripple effects of this intervention should not be underestimated. Daugherty et al. (1998) found that satisfaction with the intern year was associated with positive learning experiences (most of which come from fellow residents as well as special patients) and a lack of mistreatment.

Knowledge...should not be confused with proficient teaching skills *Greenberg et al. 1984*

The importance of senior doctors supporting trainees in Australian hospitals is recognised as important, but difficult in practice (Lake and Ryan 2005). Lake and Ryan (2005) emphasise the importance of individual senior doctors taking responsibility for helping junior doctors with difficulties, even if this just involves "a quiet chat". While systemic factors are just as important as personal factor in stress, low-level interventions across a wide scale may be quite effective—a psychological version of the "think global, act local" mantra. Given findings like these it seems likely that peer support programs such as that being developed for Australian general practitioners (see Clode and Boldero 2005) are likely to be equally beneficial for junior doctors. While no studies of Balint groups or other programs were identified in this review, they are also likely to offer the kind of support many studies have found to be beneficial.

Despite an often high level of job satisfaction among interns, many report concerns about the organisational aspects of their jobs (Newbury-Birch and Kamali, 2001). In Lo and Spurgeon's (2007) survey of Hong Kong surgeons, seventy-two percent felt that additional support staff (such as physician assistants, nurse practitioners and ancillary staff) would reduce their workload. Some efforts to improve the position of interns (such as restricted working hours) appear to have placed a greater burden on

consultants (Kapur et al. 1998; Coupland 1998) which in itself may negatively impact on interns. Patient care in hospitals remains a team activity and changes to individual roles within that team can often have unforeseen consequences. The need for reforms to be undertaken within a systems-based organisational framework taking into account all components of the patient-care system is probably overdue. The provision of adequate continuity of care is frequently grounded on the assumption of long individual working hours, however it is not impossible to restructure working practices to deliver outcomes that are beneficial both for the patient and the junior doctor.

Kapur et al. (1998) for example, suggests that greater autonomy for junior doctors and reduced hours for consultants would improve the distribution of workload. Firthcozens and Moss (1998) called for improved teamwork and organisational culture to reduce the unnecessary load on both interns and other hospital staff.

The issue of improving interpersonal experiences and interactions between interns and other staff is very significant. The high level of abusive behaviour reported by many interns and medical students (Daugherty et al. 1998; Maida 2003; 2006) and the importance of such incidents for intern well-being and job satisfaction are of great concern. The ongoing cycle of abuse well known in psychology also perpetuates itself within the medical “family” and intervention within this family may be equally difficult. Mareiniss (2004) suggests that environmental changes to medical training procedures to reduce the stressors resulting unprofessional behaviour may be more effective than ethics training per se. Reducing financial pressures on junior residents and providing better educational opportunities may reduce the incidence of unprofessional behaviour. However, junior residents also need to be protected from the unprofessional behaviour of their colleagues and provided with positive role models and feedback (Mareiniss 2004; Borman 2007). Again, the institutional culture of hospitals needs to be examined as an organic and interconnected system with the repercussions of potential interventions examined across the entire network of relationships.

An example of the potential flow-on effects of interventions that may operate at a multitude of levels is the use of mental health services by doctors in training. Pitt et al. (2004) reviewed American services in hospitals and found that a lack of funding, issues of confidentiality, ease of access, financial cost and scope of services were barriers to utilisation. However a program implemented by the University of Michigan Health System specifically for house officers recorded increased utilisation and high levels of satisfaction with the service over four years. Pitt et al. (2004) argue that such services not only support the general mental health of residents but also assist residents deal with the stress associated with (both causing and resulting from) medical errors. Support for such assistance schemes appears widespread (e.g. Levey 2001) however few attempts have been made to systematically describe, compare and assess their effectiveness across institutions.

Being a complete person—with the insights, strengths, and experiences that come with the intentional balance of “loving” and “working” throughout the course of our lives—makes us better healers.
Louie et al. 2007

Similarly, Louie et al. (2007) argues for the continuation of lifelong learning for all medical practitioners in the same way that occurs for psychiatrists. The ability to achieve the balance between patient care and self care, maintain both productivity and quality and work successfully within a team requires constant skill, monitoring, negotiation and discussion.

Achieving balance in life and work is a skill that can be introduced to the student, practiced by the intern and constantly refined, improved and developed for the remainder of a medical career. We need to remember that balance, in a psychological context, is an ongoing process, not a final steady state. Perhaps it is

worth recognising that this is one skill we can never truly master, but that attainment in itself may be reached simply through the act of trying.

Balance is the practice of practices. And it is never ending. You continually find your balance, you don't achieve balance. Even if you were able to find your perfect balance and hold it, life itself will throw you off balance continually. There is no state of motionlessness for a tightrope walker. It is constant adjustment.
Kahn, 1999

Future directions

In general a review of the evidence-based literature on the experiences of junior doctors in hospital settings suggests a culture of long hours, difficult work and lack of support from a wide range of international studies. However, the review also reveals evidence of a gradually shifting culture and a recognition that the traditional approach to training junior doctors needs to be changed.

Assessing the experience of junior doctors in Australia is difficult at present because of a significant lack of research on the well-being and mental health of this demographic. There is a clear need to conduct further research comparable to that done on junior doctors overseas and on more senior medical practitioners in Australia. There is also a bias towards the study of readily quantified aspects of junior doctor experience (such as working hours) rather than cultural aspects which might, in fact, be more important for well-being or more amenable to intervention. Clearly there are many areas of junior doctor experience that are poorly studied, such as issues facing cultural minorities, which may be important areas for future research to address.

The application of scientific research to the human condition is inherently retrospective and plagued by the difficulties of measuring ever changing circumstances and conditions. The experiences of junior doctors is no exception to this general limitation with dramatic changes in junior doctor hours (in the course of a single generation) provides a compelling example of this process. It seems likely in future the experiences of junior doctors will increasingly be in the non-institutional, community sector.

The inherent timelag in research and publication means that a review of the literature can only form a background to an understanding of present conditions and circumstances. Future research may benefit from examination of the level of supervision required early on to reduce stress and anxiety. The provision of safety nets accompanied by protocols and systemic support may encourage doctors to recognise that it is a stressful time for them because their learning is taking place in the workplace. Junior doctors don't necessarily know all the clinical answers to patients' queries and supervision must be available 100 % of the time. Teaching junior doctors to recognise when they are stressed, tired and depressed and acknowledge that at these times, they are more likely to make clinical errors. Self-observation, monitoring and acknowledging their own states is vital to ensure that junior doctors seek out appropriate close supervision and guidance. In turn, junior doctors need to feel safe to discuss issues and concerns with their supervisors.

The ultimate goal is to develop a culture of honest disclosure—not one where mistakes are hidden for fear of being punished.

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Appendix A: Safe Hours Project

Australian Medical Association, Safe Hours Project further resources see:
<http://www.ama.com.au/web.nsf/doc/WEEN-6EPV92>

Risk Assessment Checklist and Guide (from the Safe Hours Project)

RISK ASSESSMENT CHECKLIST		RISK ASSESSMENT GUIDE (based on a 7 day period)		
		*Lower Risk	* Significant Risk	*Higher Risk
1	Are doctors regularly scheduled to work more than 10-hour shifts?	Less than 50 hours worked	50 to 70 hours worked	More than 70 hours worked
2	Do doctors work through a full shift cycle (ie. 24 hours or more) at least once in a 7-day period?	No more than 10 consecutive hours in any one period	Up to 14 consecutive hours in any one period	14 or more consecutive hours worked at least twice
3	Do doctors work more than 14 consecutive hours in any one period (including overtime and recalls) at least twice a week?	Scheduled shift hours worked	Scheduled shift plus part of next shift worked	A full shift cycle worked of at least 24 hours.
4	Is the minimum period of rest between scheduled work less than 10 hours?	Three or more short breaks taken during shift	One or two short breaks taken during shift	No short breaks taken during shift
5	Are the total hours worked <ul style="list-style-type: none"> • in a 7-day period more than 70 hours (including overtime and recalls)? • in a 14-day period more than 140 hours? • in a 28-day period more than 280 hours? 	Little or no overtime	More than 10 hours overtime	More than 20 hours overtime
6	Is the minimum non-work time <ul style="list-style-type: none"> • in a 7-day period less than 88 hours? • in a 14-day period less than 176 hours? • in a 28-day period less than 352 hours? 	Rostered for on-call less than 3 days in 7 days	Rostered for on-call duty 3 days or more in a 7-day period	Rostered on-call continuously for more than a 7-day period
7	Is there less than a 24-hour break free of work in a 7-day period?	No night shift or extended hours into night shift	At least 2 night shifts or extended hours into night shift	At least 3 night shifts or extended hours into night shift
8	Are there less than two 24-hour breaks free from work in a 14-day period?	Minimum 10 hour breaks between work periods and 2 days free of work	Minimum 10 hour breaks between work periods and 1 day free of work	Less than minimum 10 hour break on at least two work periods and no full day free of work
9	Are there less than eight 24-hour periods free from work in a 28-day period?	Forward shift rotation and predictable cycle	Forward shift rotation but changed cycle	No stable direction or speed of rotation
10	Are doctors rostered for on-call duty more than once every three days?	No changes to roster without notice	Changes to roster through overtime and recalls worked	Roster changed so much because of overtime and recalls so as to be unpredictable
11	Does the shift rotation move anti-clockwise?	Maximum opportunity for sleep to be taken at night including two full nights of sleep.	About two-thirds of sleep able to be taken at night including one full night of sleep.	Less than half of sleep able to be taken at night and no opportunity for one full night of sleep.
12	Does the shift rotation change direction and speed over a 28-day period?			
13	Have the actual hours worked and the times at which they have been worked in the last 28 days varied from the posted roster by more than 25%?			
14	Is a doctor scheduled for more than three night shifts in a 7-day period?			
15	Is a doctor rostered for on-call duty comprising more than 24 hours of the minimum 88 hours free from work in a 7-day period?			
16	Is a doctor scheduled to work night shifts whilst peak educational and training requirements have to be met?			

*Each Lower Risk Element to be scored at 1

*Each Significant Risk Element to be scored at 2

*Each Higher Risk Element to be scored at 3