

# Assessment and management of fatigue in rural general practice: A developing research project

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## Background

Mitigation of fatigue-related risk among health care professionals is vital to the health and safety of both patients and practitioners. In order to effectively address and manage fatigue-related risk, the risk factors most pertinent to the workforce in question need to be identified, and tailored fatigue risk management strategies need to be developed. Fatigue is likely to become an increasing concern to New Zealand's general practitioners (GPs), as predictions become realised that the current GP workforce will not be able to accommodate the needs of a growing and ageing population.<sup>1</sup> With issues of recruitment and retention already critical, especially in some rural regions, factors that contribute to fatigue, including long work days, inadequate time away from work, and insufficient sleep, will be exacerbated.

Fatigue can be defined as the inability to function at one's optimum level, because physical and mental exertion (of all waking activities, not only work) exceeds existing capacity.<sup>2</sup> Restoration, particularly of cognitive function, requires sufficient good quality sleep. A variety of factors can contribute to work-related fatigue, including: work duration and intensity; inadequate sleep, and working at inappropriate times in the daily cycle of the circadian pacemaker, which programmes the brain and body for sleep at night. In 24/7 operations such as health care, ex-

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tended periods of wakefulness, high workload, insufficient sleep and work at night are not uncommon and all can impact on one's ability to perform.<sup>3-7</sup>

## Fatigue in rural GPs

The rural setting presents additional challenges in terms of fatigue and fatigue-risk management as there is limited availability of relief cover and an expectation of care provision on top of regular clinic hours. On-call work is indentified as a particular fatigue risk,<sup>8</sup> because of its unpredictable nature regarding both the amount and timing of such work. Rural GPs work significantly more on-call hours per week (16h compared to 6h) than urban GPs.<sup>1</sup> When on call, sleep is often restricted and disrupted by phone calls and requirements to attend to patients. There is now a solid body of experimental evidence demonstrating the detri-

mental effects of restricted sleep and we know the effects for behavioural functioning are both dose-dependent and cumulative.<sup>9,10</sup>

Extended work hours also present significant fatigue-risk in the rural GP population. Long, continuous hours of work contribute to fatigue by increasing the exertion required to meet work demands, and by restricting the time available for recovery sleep. Days free of work are needed for maintaining professional currency, for work/life balance, and for full recovery sleep after sleep restriction. Undoubtedly, a lack of relief in many rural areas is a key factor contributing to the extended work days. The significance of this issue was highlighted almost 10 years ago where a lack of locum relief for holidays was rated as 'important' or 'very important' by 82.9% of rural GPs, while lack of relief for continuing medical education was rated as

'important' or 'very important' by 77.2%<sup>11</sup> of respondents in the New Zealand Rural General Practitioners 1999 Survey.

In the 2003 Amendment to the Health and Safety in Employment Act (1992), fatigue and shift work were explicitly identified as workplace hazards that must be actively managed. While fatigue risk has been acknowledged for decades as a concern in the transport sector, the health care sector has been slower in recognising the need to manage fatigue across its diverse workforces.<sup>2</sup> Previous study of the rural GP population in New Zealand has clearly articulated issues relating to recruitment and retention, high workload and onerous on-call duty e.g.<sup>11-13</sup>, but fatigue per se has not been specifically assessed in this population.

### The proposed research

With all the above in mind, our research team has submitted a funding application to the Health Research Council of New Zealand (HRC) to enable us to firstly assess and then assist in the development of effective strategies to manage fatigue-related risk in rural general practice. This research involves collaboration between researchers at Massey and Otago Universities, who are competent in the research fields of sleep

and fatigue (Professor Gander and Dr Jay) and general practice research (Dr Farry and Associate Professor Dovey). Sarah Jay works at the Sleep/Wake Research Centre, of which Philippa Gander is Director. Pat Farry and Sue Dovey are Directors of Te Waipounamu Rural Health Unit and the Royal New Zealand College of General Practitioners' Research Unit, Dunedin respectively.

The proposed research will be conducted in three phases:

1. Census-based distribution of a fatigue assessment questionnaire to rural GPs. The questionnaire will include questions about demographic variables, practice/clinic profiles, on-call work, sleep and sleepiness, work-life balance and a recent work history (actual hours worked);
2. Objective monitoring of the sleep/wake and work patterns of 50 rural GPs for one week (25 identified as being at high risk for fatigue and 25 identified as low risk), in order to validate the risk assessment criteria in the questionnaire; and
3. Working with rural GPs to identify and disseminate information on existing fatigue risk management strategies, and developing new approaches to managing fatigue risk in rural general practice.

A Massey University Research Fund grant has been awarded to conduct the national survey and work has begun on adapting an existing fatigue questionnaire (developed from the Sleep/Wake Research Centre's previous work with Resident Medical Officers<sup>2</sup>) for the rural GP population. We hope to distribute the fatigue-risk questionnaire early in 2009. Depending on the outcome of the HRC application, the team will continue with Phases 2 and 3 of this work from mid-2009.

### Significance of the proposed research

This project will identify the relative importance of different fatigue risk factors in the rural GP population and identify the rural regions that are at greatest risk. The aim is to increase awareness of fatigue-related risk in this population and to assist rural GPs in the development of strategies to manage this risk. Basic education about sleep science and strategies for management of fatigue-related risk will be made available to all rural GPs. We hope that the results will inform discussion and debate regarding the distribution of the limited resources available for intervention.

### Competing interests

None declared.

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