

In the second in this series, Bryan Vila, a senior investigator in sleep and performance at Washington State University, discusses the challenges involved in managing police fatigue.



# Managing police fatigue: a high-wire act

Anyone who's ever been to the circus knows what a complex balancing act is required of the daring acrobats who walk the high wire. While some attempt the feat 'free-handed', most use some sort of prop, such as a long drooping pole, to help maintain their balance as they walk the fine line between two points.

Managing police fatigue is an equally complex balancing act that involves the needs of the community, the department, and the police officers themselves. Most police departments today still attempt to address this issue 'free-handed'. But a growing number are beginning to work closely with sleep researchers who can provide them with the props they need – in the form of recommendations and tools based on recent scientific studies – to make the task much easier.

This article addresses just a few of the ways these studies can help improve staffing decisions, shift scheduling, overtime management and other issues that affect officers' sleep, and ultimately their health, safety and job performance.

## Balancing needs

Policing is one of the most critical and expensive government activities. It is essential that communities have sufficient officers on duty at any given time to respond to emergencies, prevent crime and arrest offenders. It is equally important that public resources are not wasted by having too many officers on duty. To complicate matters, every community generates a unique demand for police services that tends to rise and fall across the day, week and season.

The problem of scheduling just enough officers is compounded by the complexities of managing fatigue. If officers are impaired by fatigue, they become less alert, their cognitive and physical abilities decline, their moods worsen and they become less able.

Over the long term, fatigue makes officers more vulnerable to illness, chronic disorders and certain kinds of cancers. Fatigue also corrodes the quality of an officer's family life.

It is therefore in everyone's best interest to understand the causes of police fatigue and to learn how best to manage and mitigate those causes.

## Causes of police fatigue

In shift workers, such as police officers, fatigue and its effects are rooted in four different variables.

**Time of day** – Police work is a constant, 24/7 activity, but the biochemical, physiological and behavioural systems of human bodies are synchronised by circadian rhythms that strongly favour working during the day and sleeping at night. Police officers, like all humans, tend to be much more vulnerable to fatigue from 11pm to 6am.

**Quantity of sleep** – Our sleep reservoirs fill up when we sleep for seven-and-a-half to eight hours, and then are drained during each waking hour. This means an officer who gets a full quota of sleep, rises at 7am, then starts a 12-hour shift at 11am, is likely to be very impaired by 11pm – roughly the equivalent of a blood alcohol concentration of 0.05 per cent. If the officer starts his or her shift with less than a full quota of sleep, he or she is likely to be even more impaired by the end of that shift. Moreover, sleep debt is cumulative and, if not repaid, will likely cause the officer to become increasingly impaired over time.

**Quality of sleep** – Many police officers have serious sleep disorders that disrupt sleep or make it difficult to fall asleep and stay asleep. A sleep-disordered officer who spends eight hours in bed each night (or day) may not be getting enough quality sleep to make it through a work shift safely. Currently, the only way to

manage this problem is to have officers screened periodically by a qualified sleep physician.

**Number of sequential work days** – Police officers, like all people, get progressively more tired with each day of work. This effect is especially pronounced if the successive shifts require officers to sleep during the day rather than during the night, since night sleep is much more natural and tends to be more restorative. While many people try to catch up on lost sleep during their days off, this may be impossible for an officer whose sleep debt is too large to be repaid.

### Managing and mitigating fatigue

Managing and mitigating fatigue requires striking a balance between police officers' circadian rhythms and the rhythms of society. But in addition to balancing a community's demand for services against officers' physiological needs, managers must also find ways to mitigate the impact of scheduling on officers' lives outside of the job.

The success of any fatigue-management effort requires officers to practise good sleep habits. It takes training in sleep practices and real commitment for an officer to get sufficient sleep during the day when noise, light and circadian rhythms are fighting to keep the officer awake. Moreover, since the majority of society is organised to be active during the day and evening, a day-sleeper's world is full of temptations to be with loved ones, attend to errands or get in a round of golf.

Shift schedules must be as stable as possible in order to encourage good sleep practices and minimise stress on officers.

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Erratic work hours make shift work even more difficult because they interfere with nearly every aspect of life, breaking routines and increasing problems associated with everything from picking up the children from school to planning an evening with friends.

The main cause of erratic work hours for most police officers is overtime caused by late arrests, off-duty court appearances, emergencies or the need to increase staff for public events.

Another cause is moonlighting (secondary employment). The best way to minimise inconsistent work hours is to ensure that staffing numbers match the demand for police services – and to drastically limit moonlighting.

### Creating change

Despite the obvious importance of managing fatigue, most police agencies have a hard time with this issue, largely because of the

allure of overtime. Even though overtime is a convenient way for managers to patch gaps between demand and available staff – and for officers to earn more money – it must be minimised. In my experience, the best fatigue management practices grow out of a close collaboration between management and labour that is informed by hard science.

Science provides a common ground where hard evidence helps balance conditions of work negotiations. It forces managers to confront the real risks and costs of fatigue, and it forces officers and their representatives to focus on their first priorities: safety and health.

Both sides have to cooperate. Risks and costs can't be controlled unless officers make sleep a priority and come to work rested. But they cannot do so unless work hours, schedules and staffing are appropriate. Cooperation is the only way either side can get what it needs.

However, good intentions alone can't solve a very complex scheduling problem and reconcile that solution with the immutable biological demands of officers' circadian rhythms. This problem requires substantial mathematical skills and a deep understanding of human sleep.

### Collaborative effort

The Calgary Police Service (CPS) is taking an exemplary approach to this problem by involving a skilled operations researcher, Peter Belmio, to help analyse the demand for services and develop scheduling options. They are working with a sleep researcher – Dr Charles Samuels of the University of Calgary's Centre for Sleep and Human Performance – who is developing techniques for measuring the impact of different schedules on officers' alertness and cognitive performance. CPS has also worked with me to begin educating officers and supervisors about sleep issues and strategies for maintaining good sleep habits.

This collaborative effort strives to identify problems and acquire hard evidence that will make it possible to build shift schedules that balance the needs of Calgary's communities with those of its officers. But there is still much to do. Future plans include finding ways to integrate evidence-based scheduling and work-hours management into CPS policies and practices – such as by refining shift work and sleep education programmes for officers and their families, and by developing health screening systems that are economical, practical and scientifically rigorous.

The hands-on work of police agencies such as CPS is part of an even larger collaborative effort by research teams at Washington State University, the US National Institute for Occupational Health and Safety, the State University of New York at Buffalo, Harvard University and the University of California, San Francisco. The goal is to build knowledge and tools that can help police everywhere balance the needs of communities with those of the officers who serve them.

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