

## **Theme Leader profile – Mark Howard**

### **Where do you work?**

Institute for Breathing and Sleep; Austin Health Department of Respiratory & Sleep Medicine, Melbourne, Victoria.

### **What is your current role?**

I am a respiratory and sleep physician. I am currently the Director, Victorian Respiratory Support Services, a state wide service providing care for people on home ventilation, Chair of Senior Medical Staff at the Austin, a Board member of the Australasian Sleep Association and Theme Leader for the Alertness CRC. I also provide advice on the links between sleep and health problems and transport accidents.

For example, as part of the CRC, Suzanne Ftouni, Shantha Rajaratnam and Clare Anderson from Monash and I advised the Transport Accident Commission (TAC) on the science of sleep and how to educate people about drowsy driving. Victorian motorists fund the TAC through a charge in their registration fees. The TAC runs road safety campaigns and pays for treatment and support services for people injured in transport accidents.

Crashes due to driving when drowsy are prevalent. If everyone knew when they were becoming impaired, and everyone did something about it, accidents due to drowsy driving would reduce. It seems there are two problems. People don't recognise they are becoming drowsy or they don't realize it's a serious problem and continue to drive. The vast majority of people have experienced micro sleeps, head nodding and so on. Even professional drivers acknowledge they experience this, but they just keep driving. The aim of the TAC campaign is to get drivers to realize the warning signs and to act on them before they fell asleep and had a serious crash.

A road side test for alertness impairment due to drowsiness is one of the expected outcomes of the Alertness CRC.

### **Where were you prior to your current role?**

Prior to this role, I was involved full time in research. We were conducting a large sleep and health screening program in the transport industry in Victoria in collaboration with TAC, WorkSafe Victoria, Transport Workers Union, VicRoads and the Victorian Transport Authority.

We screened 4,000 drivers for sleep and health problems. After the program, there was a 14% reduction in accidents and injuries and an ongoing health and screening program carried out by another entity, continues to screen transport workers.

**What area of research are you working in?**

I'm working in a couple of areas. One is looking at interventions to improve sleep health in health care workers.

Health care workers are the largest group of shift workers involved in critical work. We know that shift work is associated with poorer health, safety and performance and that this is due to inadequate and poor quality sleep and sleep disorders, including shift work disorder. Shift work is necessary in health care settings to provide 24 hour cover for patients. We are looking at how we can further improve managing shift work to improve outcomes for patients and workers. We aim to reduce medical errors and accidents when driving home after a shift.

A second key area of research is the evaluation of the use of alertness monitoring technology in occupational settings. This could be a roadside test or workplace fitness for duty monitoring technology. While there has been some laboratory testing, we need field evaluations of these technologies. We are assessing how alertness monitoring could help reduce the risk of shift worker's having an accident when driving home. These systems can provide a warning system for the driver and also have the capability to send an alert back to a central point and they can monitor the whole fleet. In addition to directly warning drivers the information can be used to identify problem areas, informing changes in shift work schedules or leading to evaluation of shift workers for sleep disorders.

We are also exploring the potential to use similar methods in heavy vehicle transport operations with the National Transport Commission.

**What attracted you to this type of research?**

Following on from the transport worker Health Screening Program, I enjoy working to implement larger intervention studies particularly in occupational settings. While there is a lot of science identifying medical sleep disorders and how to address them clinically, there is potential for big impacts if you focus on occupational settings. It takes a large organisation to carry out big projects to improve impaired sleep among shift workers. The Alertness CRC work we are doing in the health care area at the Austin and in South Australia through the Flinders University team can be translated into other healthcare settings benefiting medical officers, nurses, midwives.

**What do you like best about your role?**

Broadly, I'm a clinician and love one on one interaction with patients and helping people individually but it's also exciting to look at new scientific studies and new approaches especially within workplaces such as healthcare and transport.

**What was the most fulfilling piece of research you've completed to date?**

There is good evidence that the Health Screening work in which we did in Victoria from 2002 onwards, and which continues on beyond that initial project, was helpful. That was a rewarding piece of work.

**What impact will your research have?**

We are looking at how we use new technologies to improve alertness in health care settings but looking for opportunities improve health and reduce accidents in the transport industry as well.

**What advice would you give to young researchers?**

Follow what you are passionate about.

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