Mitigation: Health Impacts

Core Body of Knowledge for the Generalist OHS Professional

Safety Institute of Australia Ltd

Australian OHS Education Accreditation Board

Copyright notice and licence terms

First published in 2012 by the Safety Institute of Australia Ltd, Tullamarine, Victoria, Australia.

Bibliography.
ISBN 978-0-9808743-1-0

Disclaimer

The OHS Body of Knowledge for Generalist
OHS Professionals has been developed under the
auspices of the **Health and Safety Professionals Alliance**

The Technical Panel established by the Health and Safety Professionals Alliance (HaSPA) was responsible for developing the conceptual framework of the OHS Body of Knowledge and for selecting contributing authors and peer-reviewers.
The Technical Panel comprised representatives from:

The Safety Institute of Australia supported the development of the OHS Body of Knowledge and will be providing ongoing support for the dissemination of the OHS Body of Knowledge and for the maintenance and further development of the Body of Knowledge through the Australian OHS Education Accreditation Board which is auspiced by the Safety Institute of Australia.

Synopsis of the OHS Body of Knowledge

Background

A defined body of knowledge is required as a basis for professional certification and for accreditation of education programs giving entry to a profession. The lack of such a body of knowledge for OHS professionals was identified in reviews of OHS legislation and OHS education in Australia. After a 2009 scoping study, WorkSafe Victoria provided funding to support a national project to develop and implement a core body of knowledge for generalist OHS professionals in Australia.

Development

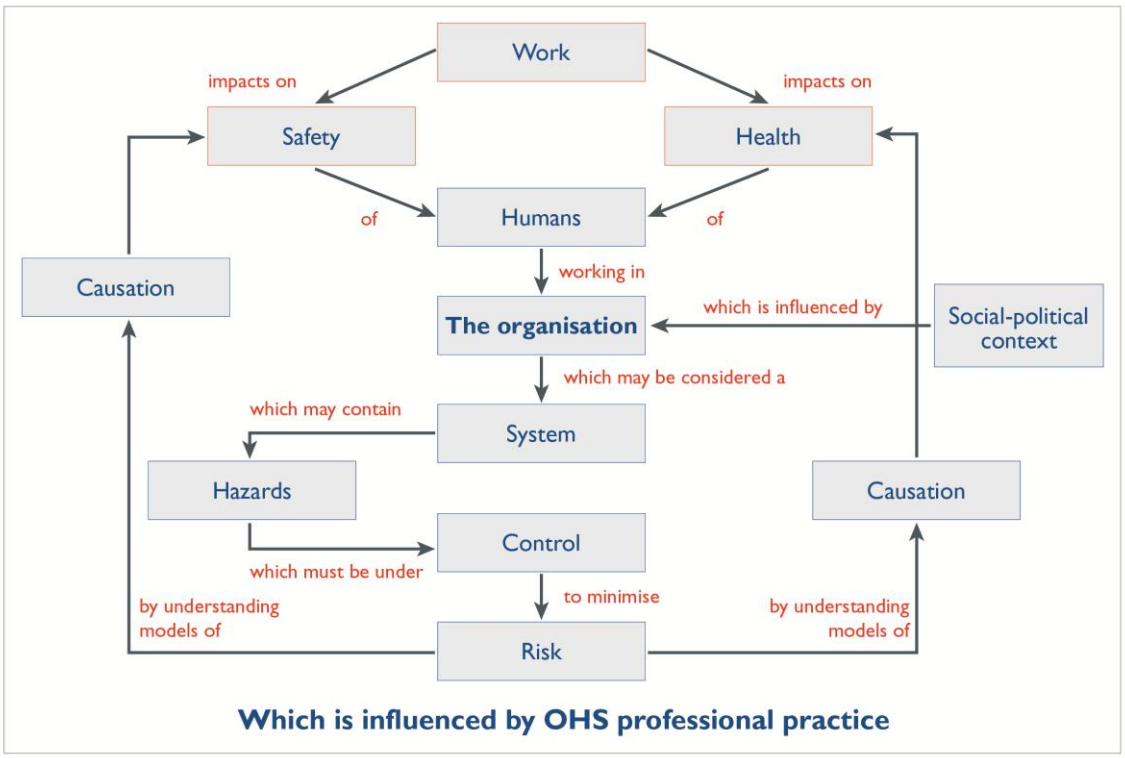
The process of developing and structuring the main content of this document was managed by a Technical Panel with representation from Victorian universities that teach OHS and from the Safety Institute of Australia, which is the main professional body for generalist OHS professionals in Australia. The Panel developed an initial conceptual framework which was then amended in accord with feedback received from OHS tertiary-level educators throughout Australia and the wider OHS profession. Specialist authors were invited to contribute chapters, which were then subjected to peer review and editing. It is anticipated that the resultant OHS Body of Knowledge will in future be regularly amended and updated as people use it and as the evidence base expands.

Conceptual structure

The OHS Body of Knowledge takes a 'conceptual' approach. As concepts are abstract, the OHS professional needs to organise the concepts into a framework in order to solve a problem. The overall framework used to structure the OHS Body of Knowledge is that:

> **Work** impacts on the **safety** and **health** of humans who work in **organisations**. Organisations are influenced by the **socio-political context**. Organisations may be considered a **system** which may contain **hazards** which must be under control to minimise **risk**. This can be achieved by understanding **models causation** for safety and for health which will result in improvement in the safety and health of people at work. The OHS professional applies **professional practice** to influence the organisation to being about this improvement.

This can be represented as:



Audience

The OHS Body of Knowledge provides a basis for accreditation of OHS professional education programs and certification of individual OHS professionals. It provides guidance for OHS educators in course development, and for OHS professionals and professional bodies in developing continuing professional development activities. Also, OHS regulators, employers and recruiters may find it useful for benchmarking OHS professional practice.

Application

Importantly, the OHS Body of Knowledge is neither a textbook nor a curriculum; rather it describes the key concepts, core theories and related evidence that should be shared by Australian generalist OHS professionals. This knowledge will be gained through a combination of education and experience.

Accessing and using the OHS Body of Knowledge for generalist OHS professionals

The OHS Body of Knowledge is published electronically. Each chapter can be downloaded separately. However users are advised to read the Introduction, which provides background to the information in individual chapters. They should also note the copyright requirements and the disclaimer before using or acting on the information.

Mitigation: Health Impacts

Dr Kevin Sleigh MBBS ACCAM GradDipOccH MRO FAFOEM(RACP)
Consultant Occupational Physician
Email: sleigh@ssc.net.au

Kevin is a consulting occupational physician. From a twenty year background in general practice, he has specialised in occupational medicine for the last 14 years currently consulting to WorkSafe Victoria, the Transport Accident Commission, the Herald and Weekly Times Media Group, Solar Turbines Australia and Equipsuper. He is the President of the Australasian Medical Review Officers Association, a past president of the Australian and New Zealand Society of Occupational Medicine and past chair of the Board of Censors of the Faculty of Occupational and Environmental Medicine, RACP.

Peer reviewers

Dr Matthew Brandt MBBS(Hons), MPH, MOHS, FAFOEM(RACP)
Visiting Occupational Physician, Kinetic Health Care

Dr Robert McCartney MBBS, FAFOEM(RACP)
Occupational Physician, OccMD Pty Ltd
President, Australian & New Zealand Society of Occupational Medicine (ANZSOM)

Core Body of Knowledge for the Generalist OHS Professional

Core Body of Knowledge for the Generalist OHS Professional

Mitigation: Health Impacts

Abstract

Although the activities of injury management, claims management and return to work may not be core activities for generalist Occupational Health and Safety (OHS) professionals, knowledge of key health mitigation principles is required to minimise the impact of work-related injury, ill health and disease on individuals and organisations. This chapter discusses the importance of: exposure monitoring and health surveillance; early notification of 'near misses,' injury or disease; early provision of first aid and quality medical care; compensation for work-related injury and management of the impacts of being in the 'compensation system;' 'stay at work' or 'early return to work;' workplace support for the recovery process of injured workers; and appropriate management of any workplace fatality.

Keywords

health, injury, first aid, return to work, compensation, biological monitoring, health surveillance, occupational physician

Contents

1 Introduction

The definition of the generalist Occupational Health and Safety (OHS) professional which has informed the OHS Body of Knowledge focuses on the prevention of work-related fatality, injury, disease and ill health.[1] Significantly, the concept of prevention extends to include minimisation of the impact of the initial injury, disease or ill health, and the likelihood of recurrence and/or traumatic impact on others associated with a workplace injury or fatality.

While the scoping statement for the OHS Body of Knowledge indicates that the areas of claims management and return to work are likely to have specialised bodies of knowledge,[2] the role of the generalist OHS professional may well include activities related to the management of work-related injury and return to work.

Planning for serious injuries should always be done beforehand on the assumption that such events have occurred before, even if elsewhere, and so should be naturally seen within the 'prevention' role of the OHS professional. In addition the OHS professional needs to understand the mitigation role as part of the time sequence of accidents as proposed by Haddon, Viner and others (see, for example, Viner, 1991). In Viner's model, mitigation would occur within the consequence time zone, during which damage commences, is detected and proceeds to completion, followed by recovery or stabilisation.[3] Clearly recover and stabilisation are part of the mitigation of the incident. The bow-tie diagram, used widely in major hazards facilities,[4] visually illustrates the importance of mitigation in the overall chain of the incident (Figure 1). The incident (ie: serious injury or death) is seen as the Critical or Top Event, and the consequences to the individual and co-workers need to be mitigated by appropriate processes that generally have to be pre-planned and should include activities such as first aid, medical treatment and rehabilitation and return to work.

[1] See *OHS BoK* Introduction.
[2] See *OHS BoK* Introduction.
[3] See *OHS BoK* Models of Causation: Safety.
[4] See *OHS BoK* Risk and *OHS BoK* Control.

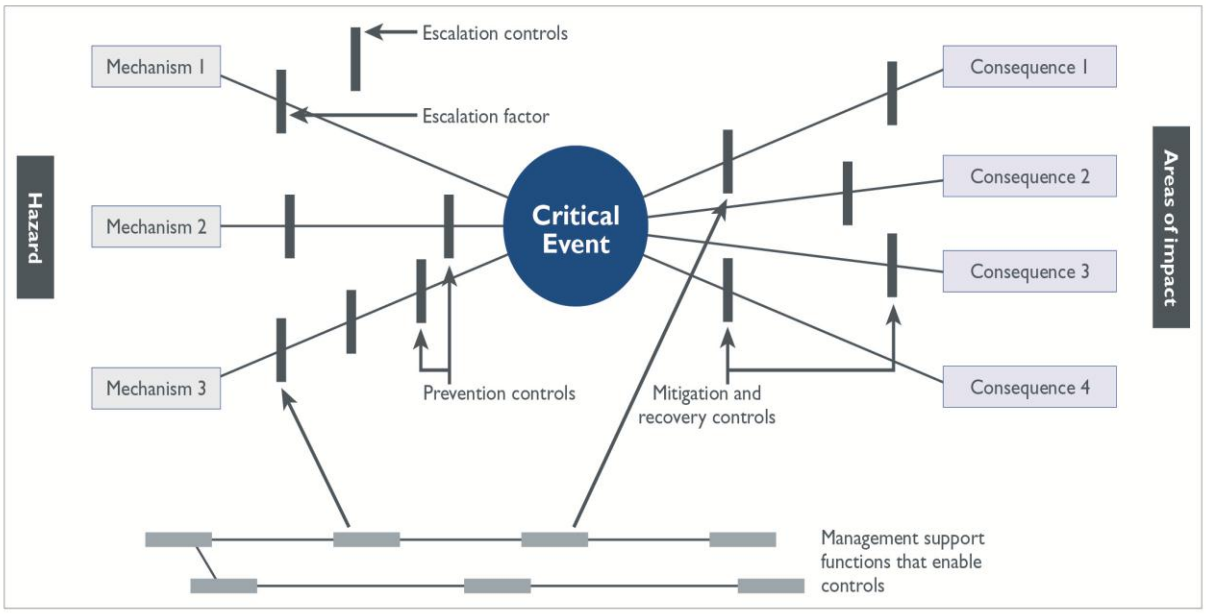


Figure 1: Bow tie model of risk (modified from Hudson & Guchelaar, 2003)

This chapter discusses principles of health mitigation relevant to the generalist OHS professional. Mitigation of the impacts of an event through emergency planning is addressed in a separate chapter.[5]

2 Historical perspective

The modern approach to preventing and managing work-related health impacts has its roots in the 18th century when incidents of injury and disease were perceived as inevitable outcomes of the production process. In the 19th century this perspective supported a focus on minimising legal redress for work-related injury claims on the legal grounds of voluntary assumption of risk and contributory negligence by the worker. Workers' compensation programs evolved at the end of the 1800s in response to greater acceptance of the inherent risk of work-related injury and the necessity to treat it as a cost of business rather than the responsibility of individual workers (Industry Commission, 1994, Appendix F).

In Australia, it was not until the 1980s that the scope of workers' compensation legislation expanded to clearly encompass rehabilitation and prevention, and the connection was made between workers' compensation and OHS. More recently, the *Australian and New Zealand Workers' Compensation Strategy 2010 – 2013* included "best practice, evidence-based injury management and return to work initiatives" as one of four priority areas (HWCA, 2010).

[5] See OHS *BoK* Control: Mitigation – Emergency Preparedness

3 Key concepts in workplace health mitigation

Generalist OHS professionals should have knowledge of the following principles relevant to mitigation of the health impacts of work-related fatality, injury, disease or ill health:

- Exposure monitoring and health surveillance
- Early notification of 'near misses,' injury or disease
- Early provision of skilled first aid
- Early provision of quality medical care where indicated
- Compensation for work-related injury and management of the impact of the injured worker being in the 'compensation system'
- 'Stay at work' or 'early return to work' for early recovery
- Workplace support for the recovery process of an injured worker
- Appropriate management of the workplace fatality.

3.1 Monitoring as part of mitigating health impacts

Information is a key requirement for identifying hazards and their impact on workers, and monitoring the effect of controls. Key sources of information to assist in identifying the potential and actual health impacts of hazards are exposure monitoring and health surveillance.

3.1.1 Exposure monitoring

Safety systems exist to protect workers from hazards, which by definition are situations or things that may cause harm if there is exposure to them (Safe Work Australia, 2010a).[6] Exposure is essential for harm to occur; this may be an acute exposure or more long term exposure. Exposure monitoring is often considered in the traditional 'occupational hygiene' context such as in a chemical leak, radiation leak or explosion, or prolonged or repeated exposures to chemicals and other hazardous agents. There are examples that litter the history of occupational medicine such as exposure to heavy metals lead, cadmium and mercury; to chemicals such as trichloroethylene, vinyl chloride monomer and aromatic solvents; and to noise, dusts and asbestos. However exposure monitoring should be considered in the broadest context and include physical and psychosocial hazards.

Although exposure monitoring of hazardous agents is usually conducted by occupational hygienists, the generalist OHS professional has a key role in not only ensuring such monitoring is carried out when required but that the information is shared with occupational physicians and treating doctors as appropriate. The generalist OHS

[6] See *Bok* Hazard as a Concept

professional also has a key role in instigating and managing exposure monitoring activities in the broader context which may include workplace inspections, surveys, audits and hazard and incident reporting.

3.1.2 Health surveillance

One way of assessing whether a safety system is working to prevent a workplace exposure is to undertake workforce health surveillance in the form of biological monitoring for early signs of a disease. As defined by Safe Work Australia (2010b), biological monitoring is "the measurement and evaluation of hazardous substances or their metabolites in the body tissues, fluids or exhaled air of an exposed person." Biological monitoring is conducted as part of health surveillance programs.

The draft *Work Health and Safety Regulations* (Safe Work Australia, 2010b) define health surveillance as "monitoring the person to identify changes in the person's health status because of exposure to a hazardous chemical" (*WHSR* s 1.1.5). The draft regulations also specify that health surveillance must be carried out when there is exposure to certain specified chemicals and by registered medical practitioners with relevant competencies. While not an alternative to reliable control measures, health surveillance provides information on the efficacy of controls and may indicate the need to review control measures. Health surveillance is common in the mining industry where workers exposed to various dusts are regularly screened by structured questionnaires, lung-function testing and chest x-rays for early signs of lung disease. On a wider scale, governments and industry sectors record incidence of occupational disease to monitor compliance with safety regulations (and systems). While arguably outside the parameters of the legislated definition, the most common example of health surveillance in today's industry is the regular performance of audiometry screening in a noise-exposed workforce to check for early signs of noise-induced hearing loss. If the tested workforce demonstrates hearing loss consistent with noise exposure, a failure of the safety system is exposed enabling rectification.

3.2 Early notification of 'near misses,' injury or disease

The most desirable outcome of a safety system failure is a reported 'near miss;' although the system failed, no injury or damage occurred because of the failure. The situation is recognised as a system failure, reported and serves as both a learning experience and a method of continuous system improvement.

It is essential for a robust reporting system to be in place. This system must be easily accessible to all who may observe a system failure, easily completed, and overseen by personnel who have the power and authority to investigate, correct the failure and communicate to all within the safety system. Sanctions for violations of the system must be clearly thought through otherwise reporting will be discouraged (Gopal, 2010). There are

many such systems, some organisation-specific, others industry-sector specific. One good example is the National Aeronautics and Space Administration (NASA) Aviation Safety Reporting System (ASRS) that was instigated in 1976 following a plane crash that may have been prevented had such a system existed (Billings, 1999). The investigation of a December 1974 accident in Washington DC found that the TWA flight crew had misinterpreted air traffic control directions, misread an approach chart, and descended prematurely causing the plane to hit a mountain. Subsequently, it emerged that six weeks earlier a United Airlines flight almost suffered a similar fate. Although all United Airlines' pilots were warned via a 'cautionary notice,' the information was not shared with other airlines. The NASA ASRS was born shortly afterwards (Billings, 1999).

Workplace injury or disease can be viewed as a failure of the safety system in place. Early notification serves two purposes: firstly, to activate a review of the system as it relates to the failure and correct it; and, secondly, to facilitate early detection, diagnosis and treatment of any injury and hence a faster recovery and better outcome. The most poignant example of the latter is in cardiac arrest where once the heart has ceased to pump minutes and seconds are critical to survival giving rise to the concept of the 'chain of survival.'

3.3 Early provision of skilled first aid

At least since the Roman Legions, the concept of battlefield 'medics' has been recognised and utilised by armies. Although their medical treatment was primitive by modern standards, the Romans recognised that early provision of first aid for the injured improved survival of battlefield casualties (Efstathis, 1999). This progressed through the ages, with the establishment of the Order of St John during the Crusades, and with Napoleon appointing the first Surgeon General to oversee and coordinate the medical care of injured French soldiers. In Switzerland, Henry Dunant created the International Red Cross to care for battlefield casualties (Efstathis, 1999; Southworth, 2008). Today, battlefield first aid and medical care are at the 'cutting edge' of acute trauma management.

In the civilian world, it was not until the 1870s in England that first aid classes – led by Surgeon Major Shepherd and Dr Coleman – were made available for the public (Southworth, 2008). Workplace first aid was initially established in the coal mining and railway industries (Efstathis, 1999). Today in Australia, workplace first aid is governed by codes of practice or guidance notes under the relevant State and Commonwealth OHS laws; this requirement is reproduced in the draft national *Work Health and Safety Regulations* (Safe Work Australia, 2010b), which stipulate:

> …persons conducting a business or undertaking to ensure adequate first aid equipment and facilities for administration of first aid together with adequate number of trained first aiders with adequacy determined by considering the nature of work, nature of hazards, size and location of the workplace and number of people at the workplace (*WHSR* s 3.3.1).

In some circumstances, well-trained and well-equipped first aiders in a workplace can make the difference between life and death. Also, well-trained first aiders will be able to identify whether they can effectively treat an injury or whether the injured worker requires more advanced care, and to stabilise simple injuries for transport to clinic or hospital.

3.4 Early provision of quality medical care where indicated

For serious injuries, medical care by a nurse or doctor may be required. Caring for a workplace injury requires a degree of understanding of the dynamics of workplace injury as well as the appropriate medical expertise. As in other spheres of medicine, timeliness of diagnosis and treatment is paramount. At the heart of medical care of workplace injury or disease are the prime principles of early diagnosis and formulation of the best (evidence-based) treatment plan and early resumption of suitable work. The initial treating doctor should play an important role in planning for an injured worker's early return to work.

3.4.1 Early diagnosis and treatment

Initial medical treatment may occur at an on-site medical facility or, as is more common in Australia, at a local medical clinic or hospital. The advantage of the on-site clinic is the speed with which an injury can be treated by nursing or medical staff who are familiar with the workplace. If referral is required, treatment can be expedited with a phone call to ensure timely assessment at the local clinic or hospital. However, only a small proportion of Australian workplaces have on-site medical facilities; more commonly, an injured worker attends their General Practitioner (GP), if they have one. Unfortunately, most GPs' knowledge of the nature of work in a particular workplace is limited to what is relayed to them by the patient.

In the absence of an on-site medical facility, the best arrangement for treatment of an injured worker is for an organisation to have a relationship with an interested local GP who knows the workplace and its personnel or with a dedicated off-site occupational health clinic. This facilitates timely access to medical care and ensures that the impacts of the work on the illness or injury are considered in both the diagnosis and the treatment. It is important that a first aider or line supervisor accompanies the injured worker to the medical centre for support; where treatment at a hospital is required, an appropriate member of management staff should accompany the injured worker.

3.4.2 Early planning for return to suitable work

Various jurisdictions provide for an employer to plan for the return to work of an injured worker under their Worker's Compensation Acts. In Victoria, for example, an employer is legally required, as soon as the claim is lodged, to consult with the worker and the treating doctor and construct a return to work plan to accommodate the injured worker for "suitable

duties" which are defined within the Act. There are five key elements which the employer is obliged to undertake. They are:

- Provide employment
- Plan return to work
- Consult about the return to work of a worker
- Nominate a return to work coordinator
- Make return to work information available.

The role of the treating doctor is pivotal in this process and early return to work depends on the treating doctor being committed to it and engaging with the employer and worker in a three way communication about return to work. An employer can assist the process by early contact with the worker and treating doctor and being flexible in the provision of duties and hours for the injured worker.

3.4.3 Obligation to cover costs of medical treatment

For a so-called 'blood on the floor' injury – or, as the judiciary have labeled it, 'injury simpliciter' – where there is no doubt that the injury has occurred at work, liability is generally accepted by the employer. The injury needs to be reported to the worker's compensation insurer within set time limits, unless the organisation is a self insurer. Self insurers are liable for the whole cost of injury and need to follow relevant processes if there is a dispute in relation to the work relatedness of the claim. In some jurisdictions, the insured employer is liable for the first quantum of medical expenses, and the first quantum of days lost, with the remainder being covered by the insurance scheme. For cases where the employer has denied liability, the payment aspect of the treatment or investigation becomes more complicated.

3.5 Compensation for work-related injury

Compensation for injury and ill health related to work is an important social equity principle. Unfortunately, the nature of the compensation scheme and the experience of having work-related injury and being in the 'compensation system' can impact the outcome of the injury or illness.

3.5.1 Workers' compensation schemes

Compensation for work-related injury or disease is as old as the history of paid employment itself. Ancient Sumerian, Greek, Roman, Arab and Chinese law provided sets of compensation schedules with precise payment for loss of a body part (Guyton, 1999). However, it was not until 1884 – well into the industrial revolution – that, in Germany, von Bismarck introduced the first modern workers' compensation system (Guyton, 1999). For the first time the concept of 'no fault' was included in workers' compensation law.

In 1880 in the United Kingdom and the Australian colonies, laws were introduced to compensate workers for loss, but unlike the German 'no fault' system, negligence had to be proved to successfully claim, with Friendly Societies taking up the shortfall for those workers who could not afford 'accident insurance' (Guyton, 1999). In 1893, the *Workers' Compensation Act* was passed by the UK House of Commons; after four years of legislative struggle it was ratified by the Lords (Guyton, 1999) and the 'no fault' concept of compensation became enshrined in the UK.

In Australia, the concepts of 19th century compensation law (with the emphasis on compensation rather than recovery) remained largely unaltered until the 1980s. Following several reports – including the Cooney report in Victoria (Cooney, 1984) and the Byrne report in South Australia (Byrne, 1980) – most state governments enacted new or revised workers' compensation Acts with emphasis on 'no fault' and 'rehabilitation and return to work' as the desired outcome of treatment (Industry Commission, 1994, Appendix F).

3.5.2 Impacts of being in the 'compensation system'

Although compensation schemes exist to compensate injured workers for loss of weekly earnings, reasonable medical expenses, statutory impairment benefits for permanent impairment and access to 'common law' rights, being within a compensation system can have demoralising and negative influences. The worst of these involves loss of work, which has many potential psychosocial as well as financial impacts. Loss of work affects a worker's sense of self worth and sense of identity, and can heighten the sense of pain from any injury. It can involve separation from social networks, lead to secondary depression and grieving for what has been lost, and can have profoundly negative effects on an injured worker's family (Sleskova et al., 2006).

Loss of contact with the workplace can be prevented by the employer providing suitable duties at the time of injury or as soon as possible thereafter. This allows the early return of the injured worker to the physical environment of the workplace, colleagues and social networks; it also minimises any secondary loss being experienced and has been shown to hasten recovery (Nieuwenhuijsen, Verbeek, de Boer, Blonk, & van Dijk, 2004).

3.6 'Stay at work' or 'early return to work' for early recovery

Since the mid-1980s, it has been known that the longer an injured worker is away from work, the longer it will take for them to return to work and, importantly, this time is irrespective of whether the original injury was serious or trivial.~~,~~ Melbourne University research has demonstrated that the critical time for return to work is within six weeks of the injury. The research showed that in the Victorian Worker's Compensation Scheme in 2002, irrespective of the severity of the injury, the chance of a person ever returning to work after a workplace injury was:

- 70% if off for 20 days
- 50 % if off for 45 days
- 35% if off for 70 days (Johnson & Fry, 2002).

In the UK, Dame Carol Black's inquiry into the sickness benefit scheme found that much needless ill health and poverty could be attributed to inappropriate medical certification; based on her recommendations, the British government instituted several reforms (Black, 2008). In the USA, the American College of Occupational and Environmental Medicine and has been instrumental in beginning to change community attitudes to the health benefits of remaining at work following injury (Christian et al., 2006). The Royal Australasian College of Physicians' Australasian Faculty of Occupational and Environmental Medicine (AFOEM) drafted a Consensus Statement – subsequently signed by representatives of all Australian and New Zealand medical colleges – that identified the health benefits associated with being in "good" work (AFOEM, 2011). Indeed, the value of staying at work or early return to suitable duties to the recovery of an injured worker is now beyond doubt (Waddell & Burton, 2006). However, much work remains to be done to educate workers, doctors and employers about this concept, and further work is required within the medical profession to educate doctors about medically appropriate certification of capacity.

3.7 Workplace support for the recovery process of an injured worker

Recovery of an injured worker is enhanced if the worker wants to return to work (Gross & Battié, 2005). A positive, caring and supportive workplace culture driven by top-down example and bottom-up support not only drives successful safety systems, but also enhances recovery from workplace injury. Workplaces can enhance recovery of injured workers by having:

- A robust early-injury-reporting system
- A suitable-duties register that can be utilised for return to work options
- Early competent first aid and medical treatment
- Injured workers accompanied to off-site treatment
- Effective communication between employer, injured worker and doctor
- Management and shop-floor support for early rehabilitation in the workplace
- Competent supervision of injured workers within appropriate restrictions.

Research suggests that the prime driver in the recovery and return to work of an injured worker is the injured worker (Mondloch, Cole & Frank, 2001). As the medical certificate issuer, the treating doctor is the 'gatekeeper' in the process. Both worker and doctor can be

positively or negatively influenced by the attitudes of the employer (van Duijn, Miedema, Elders & Burdorf, 2004).

3.8 Management of the workplace fatality

The worst outcome from the failure of a safety system is the death of a worker or a member of the public. Appropriate management of this event is paramount to satisfy regulation and law, and to minimise health impacts on workers, witnesses and others who may be affected. Regrettably, many Australian workers die in the course of their employment each year. In 2010, there were 26 work-related deaths in Victoria alone (WorkSafe Victoria, 2010). When a death occurs in the workplace, it may result in a Coroner's inquest and, depending on the circumstances, a crime scene.

WorkSafe Victoria produced a useful booklet covering the essential elements of dealing with a workplace death (WorkSafe Victoria, 2000). Its recommendations included:

- Leave the site untouched, but secure it and make it safe; if possible screen it off from open view to facilitate investigation while preserving respect for the deceased
- Have a senior manager present
- Clarify with police the process for the removal of the deceased
- Have appropriate employee records available to enable police notification of next of kin
- Ensure a senior company representative and a volunteer workmate visit the family as soon as is practicable after they have been notified by police
- Ensure a senior manager informs the workforce and allows workmates to form a guard of honour as the deceased is carried from the workplace
- Make trauma counselling available to workmates
- Offer grief counselling to the family
- Ensure all company officials cooperate fully with any investigation
- Review the failures of the safety system which led to the death
- Ensure the system is rectified to prevent recurrence.

4 Implications for OHS practice

The extent of involvement of the generalist OHS professional in mitigation of health effects will depend on their duty statement and the organisational level at which they are employed. It is likely that the generalist OHS professional would be involved in designing, implementing and evaluating processes relevant to:

- Notification of 'near misses,' injury and ill health, and appropriate response to such notification

- Workplace monitoring of health hazards such as hazardous chemicals and noise
- Biological monitoring and health surveillance where indicated or required due to exposure to hazardous agents such as chemicals or dusts
- Provision of appropriate first aid equipment, facilities and medical care
- Integration of prevention, injury management and workplace support to facilitate return to work
- Minimisation of health impacts as a result of a traumatic injury or death.

The OHS professional role should include liaison with occupational health and injury management professionals such as occupational health physicians and return-to-work coordinators. Where the delivery of these processes is part of an OHS professional's core activity, it is likely that additional knowledge and skills would be required.

5 Summary

This chapter has provided a brief overview of key concepts relevant to the mitigation of the health effects of OHS management failures, i.e. exposure monitoring and health surveillance; early notification of 'near misses,' injury or disease; early provision of first aid and quality medical care; compensation for work-related injury; 'stay at work' or 'early return to work;' workplace support for the recovery process; and appropriate management of any workplace fatality. Also, this chapter has outlined measures that can militate against these adverse health effects, and highlighted the role of the generalist OHS professional in developing and managing workplace health-mitigation processes.

References

AFOEM (Australasian Faculty of Occupational & Environmental Medicine). (2011). *Australian and New Zealand Consensus Statement on the Health Benefits of Work. Position Statement: Realising the Health Benefits of Work*. Retrieved June 5, 2011, from http://www.racp.edu.au/page/afoem-health-benefits-of-work

Billings, C.E. (1999). The NASA Aviation Safety Reporting System: Lessons learned from voluntary incident reporting. In A. Scheffler, & L. A. Zipperer (Eds.), *Proceedings of Enhancing Patient Safety and Reducing Errors in Health Care.* Chicago, IL: National Patient Safety Foundation.

Black, C. (2008, March 17). *Working for a Healthier Tomorrow: Dame Carol Black's Review of the Health of Britain's Working Age Population* (Presented to the Secretary of State for Health and the Secretary of State for Work and Pensions). Retrieved June 5, 2011, from http://www.dwp.gov.uk/docs/hwwb-working-for-a-healthier-tomorrow.pdf

Byrne, D. E. (1980). *A Workers Rehabilitation and Compensation Board for South Australia: The Key to Rapid Rehabilitation and Equitable Compensation for Those Injured at Work.* n.p.

Christian et al., J. (2006). Preventing needless work disability by helping people stay employed. *Journal of Occupational & Environmental Medicine, 48*(9), 972–987.

Cooney, B. C. (1984). *Report of the Committee of Enquiry into the Victorian Workers' Compensation System*. Melbourne, VIC: Government Printer.

Efstathis, V. (1999). A history of first aid and its role in armed forces. *ADF Health, 1*, 42–44. Retrieved June 5, 2011, from http://www.defence.gov.au/health/infocentre/journals/ADFHJ_nov99/ADFHealthNov99_1_1_42-44.pdf

Gopal, S. (2010, March 30). Safety performance indicators and the importance of incident reporting. *Safer Working.* Retrieved June 5, 2011, from http://www.saferworking.com/Articles/Safety%20performance%20indicators%20and%20incident%20reporting.pdf

Gross, D. P., & Battié, M. C. (2005). Work-related recovery expectations and the prognosis of chronic low back pain within a workers' compensation setting. *Journal of Occupational & Environmental Medicine, 47*(4), 428–433.

Guyton, G. P. (1999). A brief history of workers' compensation. *Iowa Orthopaedic Journal, 19*, 106–110.

Hudson, P.T.W.,Guchelaar, H.J. (2003). Risk assessment in clinical pharmacy, *Pharm World Sci*, Kluwer Academic Publishers; 25(3):98–103.

HWCA (Heads of Workers' Compensation Authorities). (n.d.). *The Australian and New Zealand Workers' Compensation Strategy 2010–2013*. Retrieved June 5, 2011, from http://www.hwca.org.au/documents/HWCA%202010%20-%202013%20Strategy.pdf

Industry Commission. (1994, February 4). *Workers' Compensation in Australia* (Report No. 36). Canberra, ACT: Australian Government Publishing Service.

Johnson, D., & Fry, T. (2002). *Factors Affecting Return to Work after Injury: A Study for the Victorian WorkCover Authority* (Melbourne Institute Working Paper No. 28/02). Melbourne Institute of Applied Economic and Social Research, University of Melbourne. Retrieved from http://melbourneinstitute.com/wp/wp2002n28.pdf

Mondloch, M. V., Cole, D. C., & Frank, J. W. (2001). Does how you do depend on how you think you'll do? A systematic review of the evidence for a relation between patients' recovery expectations and health outcomes. *Canadian Medical Association Journal, 165*(2), 174–179.

Nieuwenhuijsen, K., Verbeek, J. H., de Boer, A. G., Blonk, R. W., & van Dijk, F. J. (2004). Supervisory behaviour as a predictor of return to work in employees absent from work due to mental health problems. *Occupational & Environmental Medicine 61*(10), 817–823.

Safe Work Australia (2010a, December). Code of practice: How to manage work health and safety risks (Draft). Canberra, ACT: Safe Work Australia.

Safe Work Australia. (2010b). *Work Health and Safety Regulations* (Draft). Canberra, ACT: Safe Work Australia.

Safe Work Australia. (2011, June 23). *Model Work Health and Safety Bill*. Canberra, ACT: Safe Work Australia.

Southworth, J. (2008). Brief history of first aid. Retrieved from http://www.articlesbase.com/medicine-articles/brief-history-of-first-aid-554671.html

Sleskova, M., Salonna, F., Geckova, A. M., Nagyova, I., Stewart, R. E., van Dijk, J. P., & Groothoff, J. W. (2006). Does parental unemployment affect adolescents' health? *Journal of Adolescent Health*, *38*(5), 527-535.

van Duijn, M., Miedema, H., Elders, L., & Burdorf, A. (2004). Barriers for early return-to-work of workers with musculoskeletal disorders according to occupational health physicians and human resource managers. *Journal of Occupational Rehabilitation, 14*(1), 31–41.

Waddell, G., & Burton, A. K. (2006). *Is work good for your health and well-being?* London, UK: The Stationery Office.

WorkSafe Victoria (2000). *Death in the workplace – A guide for employers* [Brochure]. Melbourne, VIC.

WorkSafe Victoria. (2010). *WorkSafe Victoria Annual Report 2010.* Melbourne, VIC.