



Global Concept: Health

Core Body of Knowledge for the
Generalist OHS Professional



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Global Concept: Health

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Abstract

The World Health Organisation (WHO) definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” has existed unchanged for over 60 years. It has evolved to an understanding of the distinction between health protection, which aims for harm minimisation, and health promotion which aims to optimise health and well-being. Occupational Health and Safety (OHS) is based on a model of harm minimisation for injury prevention with a focus on control of environmental (work) risk factors. This chapter outlines important ideas which underpin the practice of occupational health through consideration of key definitions. Differences to safety science are emphasised. The scope of contemporary occupational health services is discussed. The traditional OHS model is straining as the burden of health in workplaces shifts to illness arising from chronic disease. Skills shortages are driving a renewed interest in workplace health promotion in Australia and elsewhere. New models and arrangements for occupational health are emerging. One which is reaching maturity is the integrated model in which occupational health and safety and workplace health promotion come together. A conceptual model recently developed by the National Institutes of Health and Centre for Disease Control is presented. Thus any discussion on roles in occupational health is taking place at a time when theory about workplace-based interventions for improving health outcomes is in a state of flux. The relative roles of a generalist OHS professional and specialists are briefly reviewed.

Key words

health, health promotion, OHS, occupational health and safety, safety, work,

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1 Introduction

What is health? More specifically, what is occupational health? This chapter presents key concepts and definitions that underpin current occupational health practice. Differences to safety science are emphasised. The scope of contemporary occupational health and models of occupational health practice are discussed, and sources of health expertise available to the generalist OHS professional are outlined.

2 Key concepts and definitions

This section discusses and defines concepts related to health and ill-health; it outlines a framework for considering occupational health interventions and concludes with a brief discussion on the complexity of investigations of health problems in workplaces.

2.1 Health protection and health promotion

The preamble to the Constitution of the World Health Organisation (WHO) stated “health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” This definition – adopted by delegates to an International Health Conference in New York in 1946 – came into being on 7 April 1948 (WHO, 1948) and has not been changed (WHO, 2011a). It has been described by social historians as reflecting the sense of utopia which existed after World War II. While this definition has proved controversial, it has been the most enduring of all definitions of health (Callahan, D, 1973; Saracci, 1997; Jadad, & O’Grady, 2008).

The distinction between health protection and health promotion is directly related to the definition of health. Advancement of the concept of *health promotion* in the United Kingdom in the latter half of the 20th century was fuelled by growing recognition that, if significant health gains were to be achieved, more was needed than health education. This sentiment crystallised in 1986 at the WHO First International Conference on Health Promotion, where the Ottawa Charter for Health Promotion was signed. The Ottawa Charter defined health promotion as:

...the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being. (WHO, 1986).

A contemporary definition of health promotion is “the process of enabling people to increase control over their health and its determinants, and thereby improve their health” (WHO, 2005). Work has been consistently identified as an important determinant of health in the field of health promotion. The Ottawa Charter stated:

Work and leisure should be a source of health for people. The way society organizes work should help create a healthy society. Health promotion generates living and working conditions that are safe, stimulating, satisfying and enjoyable. (WHO, 1986).

The idea that “fair employment and decent work” is good for health has gained international currency in recent years through an influential report of the WHO Social Determinants of Health Commission (WHO, 2008), and the campaigning of Dame Carol Black, the UK National Director for Health and Work (Black, 2008).

The “stimulating, satisfying and enjoyable” part of the Ottawa Charter’s description of how work can contribute to health relates to the concept of *wellness*, which has been defined as “a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being” (Corbin, & Pangrazi, 2001). In the less warm-and-fuzzy world of business this is translated as recognition that a worker may be free of injury or disease and at work, but still may not be performing to their potential. The ability to measure ‘presenteeism’ as well as absenteeism now exists (see, for example, Kessler, et al., 2003).

Health protection on the other hand is the mitigation of risks. Safety science and OHS as it has operated traditionally focuses on the “safe” part of the Ottawa Charter’s goal of work which is “safe, stimulating, satisfying and enjoyable”. The UK’s Health Protection Agency conceptualised health protection as reducing the impact of infectious diseases, chemicals, poisons and radiation (Haire, , 2004). The Health Protection Agency brings together expertise in public health, communicable disease, emergency planning, infection control, poisons, chemical and radiation hazards (WHO, 2010). In OHS it is common to classify risks as physical, chemical, biological and psychological.

Health protection aims to minimise harm and Occupational Health and Safety (OHS) law, with its obligation to employers to provide safe and healthy working environments, is based on a health protection model. Health promotion which aims to maximise health, well-being, and productivity in workplaces has historically been delivered separately from OHS. As will be argued later with illness becoming the dominant burden of work-related ill health it is likely new models of OHS will emerge which integrate health protection and health promotion.

2.2 Injury, disease, illness and disability

The differences between injury – the major concern of safety science – and disease are profound. There are many definitions of *injury*. In OHS it is common to consider injury as arising from an energy exchange; for example, an injury epidemiology text defined injury as “damage to the body produced by energy exchanges that have relatively sudden discernible

effects” (Robertson, 1998, p.265). In other words, injury is defined in terms of its cause. *Disease*, on the other hand, is defined in terms of its effect. A common definition is

...any deviation from or interruption of the normal structure or function of any part, organ, or system (or combination thereof) of the body that is manifested by a characteristic set of symptoms and signs and whose etiology, pathology, and prognosis may be known or unknown (The Free Dictionary, n.d.).

A dictionary of the diagnostic classification of diseases – *The International Classification of Diseases (ICD)* – is maintained and periodically updated by the WHO (2007a). Unlike occupational injuries where the immediate cause of the energy exchange is obvious, occupational diseases are usually multi-factorial. Environmental and behavioural causes – arising from work and outside work – as well as genetic causes interplay to result in disease occurrence. Consequently, determining work-relatedness of disease is not simple.

Not all *illness* can be attributed to disease. It is well understood that presentations to general practice are often symptoms without any objective evidence of disease (Pilowsky, I et al., 1987). Illness is therefore even more complicated than disease. A wide range of environmental and individual behavioural and genetic factors are thought to drive illness behaviour (which also will be at play in response to injury). There is mounting evidence that people who receive personal injury compensation (e.g. workers’ compensation) have slower recoveries than people with similar problems who do not receive compensation (see, for example, Grant, & Studdert, 2009). We do not yet understand why and current research is examining ways compensation scheme designs could be changed to address this (Collie, & Ellis, 2010).

Whilst the health sector has a focus on disease diagnosis, the disability sector has a focus on function – what people are able to do or not do. The International Classification of Functioning, Disability and Health (ICF) defines *disability* as:

...an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person’s body and features of the society in which he or she lives (WHO, 2011b).

The ICF is focused on health and health-related domains that:

...are classified from body, individual and societal perspectives by means of two lists: a list of body functions and structure, and a list of domains of activity and participation. Since an individual’s functioning and disability occurs in a context, the ICF also includes a list of environmental factors. (WHO, 2007b).

The concepts of disease and disability have subtle but important differences. On the one hand, there are the processes of the health services sector that facilitate diagnosis and treatment of injury or disease. On the other hand, occupational rehabilitation is geared to

achievement of return to work. It is possible to have well-functioning people with serious injuries or diseases and poorly functioning people with minor injuries and diseases.

Another relevant term commonly used today is *health outcome*. This has been defined as “a change in the health of an individual, group of people or population which is attributable to an intervention or series of interventions” (Frommer,, Rubin, & Lyle, 1992).

2.3 Levels of prevention

Occupational health is primarily a preventative discipline and, as in public health more broadly, it is common to think of preventive interventions as existing at three levels – primary, secondary and tertiary.

Primary prevention, which aims to prevent the occurrence of injury or disease (CDC, 2004), can involve individual-level interventions to change behaviour, and environmental-level interventions to change aspects of physical or social environments. OHS has a strong commitment to primary prevention mandated through the regulated obligation on employers to provide a safe and healthy working environment. Furthermore, through its hierarchy of control principle, OHS has a commitment to giving priority to interventions that rely on environmental change over interventions that aim to change worker behaviour. In practise, however, this is not always implemented. Currently, for example, workers’ compensation claim rates for noise-induced hearing loss are increasing due, in part, to the ageing of the population, but also to inadequate application of the environmental-level intervention of noise control in workplaces. Instead, workplaces have tended to rely on the individual-level intervention of requiring workers to wear hearing protection.

Secondary prevention refers to actions taken after a disease or injury has occurred, “but before the person notices that anything is wrong” (CDC, 2004). Regular hearing tests for people exposed to noise is an example of secondary prevention. Occupational stress is another area where secondary prevention interventions have predominated.

It is now common for workplaces to provide employee assistance programs and other initiatives to minimise the incidence of chronic illness associated with occupational stress. However, the implementation of proactive primary prevention interventions that address the way work is organised and the way people are managed has been slow, despite a growing evidence base of greater efficacy than is achieved with individual-level interventions alone (LaMontagne, & Keegel, 2010).

Tertiary prevention interventions are directed at people who are already exhibiting symptoms of disease.

The goals of tertiary prevention are to:

- prevent damage and pain from the disease;
- slow down the disease;
- prevent the disease from causing complications;
- give better care to people with the disease;
- make people with the disease healthy again and able to do what they used to do. (CDC, 2004).

In occupational health, tertiary prevention is occupational rehabilitation. In the past, this service was usually offered only to workers with work-related injury and disease; now it is often made available to workers with non-work-related injury and disease as well, because employers recognise the value in supporting return to work as early as appropriate, and there is a growing recognition that work is good for health (Black, 2008).

2.4 Investigation for causation

Health incident investigation and reporting are important aspects of OHS. Management of health concerns in workplaces can be complex and good practice investigation requires a high level of skill. Processes for investigating health concerns are forms of health communication and can be iatrogenic if not carefully thought through. For example, a stress survey which asks lots of questions about mental health problems arising from work, without a careful plan for communication and follow-up action can result in medicalisation of dissatisfaction from a number of causes. Experience suggests an independent expert's investigation of a cancer cluster is unlikely to result in a definitive answer, and may result in a long delay during which there is a vacuum which is filled with rumour and escalating concern among those potentially affected. New guidance in this area suggests that leadership should not be handed over to independent scientific expertise; rather, managers should retain control of strategy and communications, engage with worker representatives and other stakeholders, and consult with appropriate scientific and technical advisors (Queensland Health, 2009).

3 Scope of occupational health

From the foregoing discussion it can be seen that the scope of occupational health typically covers primary, secondary and tertiary prevention interventions. The following summary provides some illustrative examples of interventions for occupational health and safety (as required by law) and workplace health promotion often offered via separate interventions on a voluntary basis.

Primary prevention

- Environmental-level interventions for health *protection* in the workplace:
 - Physical hazards, e.g. 'no-lift' manual handling policies in aged care facilities
 - Chemical hazards, e.g. substitution of hazardous substances with less-hazardous substances
 - Biological hazards, e.g. re-design of layout of hospitals to make hand washing more convenient

- Psychological hazards, e.g. design of ‘good work’
- Individual-level interventions for health *protection* in the workplace:
 - Physical hazards, e.g. training in manual handling in aged care facilities
 - Chemical hazards, e.g. personal protective equipment
 - Biological hazards, e.g. Q-fever vaccination of abattoir workers
 - Psychological hazards, e.g. time management training
- Environmental-level interventions for health *promotion* in the workplace:
 - Nutrition, e.g. healthy eating choices in a canteen
 - Smoking, e.g. non-smoking legislation
 - Exercise, e.g. sedentary work policies
- Individual-level interventions for health *promotion* in the workplace:
 - Nutrition, e.g. health education
 - Smoking, e.g. provision of QUIT services through work
 - Exercise, e.g. exercise facilities at work
 - Sensible drinking, e.g. health education
 - Coping with stress, e.g. stress management courses

Secondary prevention

- Biological monitoring, e.g. blood lead testing
- Health monitoring, e.g. health assessments by a nurse
- Employee assistance programs, e.g. support for workers whose alcohol consumption is affecting their work performance, to overcome the problem

Tertiary prevention (occupational rehabilitation)

- Work-related illness
- Non-work-related illness.

4 The future

The scope of practice of OHS typically covers primary, secondary and tertiary prevention; incident investigation and reporting; first aid; and emergency response.

OHS is based on a regulated model of harm minimisation (health protection) for injury prevention with a focus on control of environmental (work) risk factors. The fit for health with this model is not good. Conditions for which OHS has worked reasonably well were the diseases which behaved like injuries, in that there was a reasonable link between workplace causes and the health effects, for example, noise-induced hearing loss, and pneumoconiosis or mesothelioma. However, as stated above, in reality diseases are usually multi-factorial conditions where personal risk factors and risk factors arising from work and outside work interplay. Consequently, occupational disease has been neglected and grossly underestimated in the data currently used to assess the performance of OHS authorities (Ellis, 2010). There is a need for both policy and practice related to OHS to be expanded to be cognizant of trends in occupational health.

The scope of occupational health is currently broadening. One reason for this is greater recognition of employer responsibilities for worker activities outside traditional workplaces, including for example, interventions relating to sun protection, travel health, and for home and community-care workers. Another reason is that concern about ageing and the rise of chronic disease has brought a focus on the value of workplaces as a setting for the prevention of chronic disease – without regard for its work-relatedness. One of the recommendations of the 2009, the National Health and Hospitals Reform Commission Report – *A Healthier Future for All Australians* – called for employers to play a greater role in preventing and managing chronic diseases (National Health and Hospitals Reform Commission, 2009). The National Preventive Health Task Force strategy released in the same year made significant recommendations for workplace health promotion (National Preventative Health Taskforce, 2009) and resulted in new funding for these activities.

Another development is the widespread recognition of the importance of occupational psychosocial risk factors (La Montagne, Ostry & Shaw, 2006). Psychosocial factors become important in workplaces in many different ways: as workplace hazards (occupational stressors), and as factors that can delay recovery from illness and injury. Indeed, mental health has become a prominent community concern. Tackling this complex multidimensional issue will require new conceptual models for work health to inform practice and these are emerging in the literature. Many of these feature an approach to work health, where OHS and health promotion in the workplace are combined. In short, theory about workplace-based interventions for improving health outcomes is in a state of flux.

One occupational health conceptual model that is reaching maturity is often termed the *integrated model*. Occupational health and workplace health promotion professionals tend to view the workplace from different perspectives “that may result in siloed work environments” (Goetzel et al., 2008). In the integrated model –first proposed by DeJoy and Southern (1993) – these two areas of endeavour are interconnected. A famous study, WellWorks (Sorensen et al, 1996 and 1998) which compared the effectiveness of different models of workplace health promotion, found the integrated model was the most effective. In the WellWorks study this meant that for cancer, for example, the OHS work on identifying, assessing and controlling exposures to occupational carcinogens was integrated with the health promotion work on quitting smoking, healthy eating, exercise and sensible drinking. From the point of view of the worker this meant the message was: here is the issue of cancer, this is what this workplace is doing, expecting you to do, and offering to you, in relation to cancer. Many theories have been proposed to explain why integrating workplace health promotion into occupational health is more effective. Most are based on recognition that there is a synergy between management demonstrating a commitment to worker health and wellbeing, and the worker being prepared to take more responsibility for their own health.

A recent workshop held by the US National Institutes of Health and Centers for Disease Control to determine an evidence-based approach to an integrated model has proposed the following (Sorensen et al., in press).

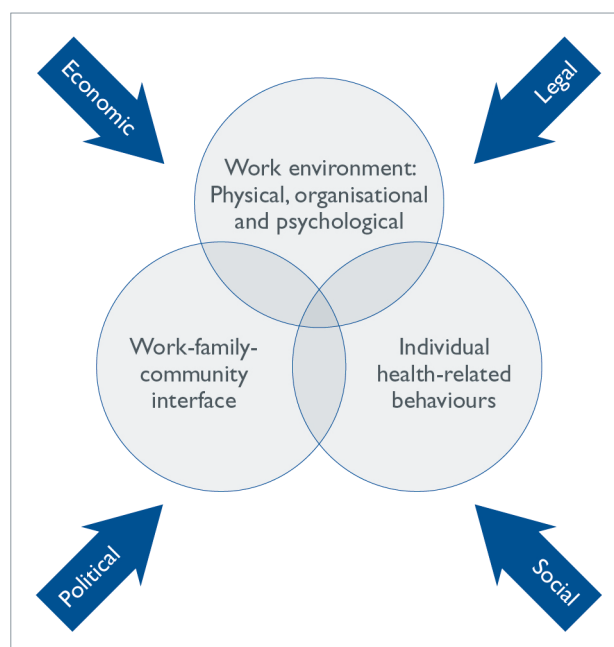


Figure 1: Intervention targets for worker health and wellbeing (Sorensen et al., in press)

Of particular interest is the inclusion of the work-family-community interface. It is predicted that the direct control role of government in social programs such as occupational health will reduce in favour of new partnerships between government, business and non-government organisations. In this scenario partnerships between organisations in local communities are expected to become more important. This may result in the emergence of new methods of providing occupational health services to small and medium enterprises.

5 Sources of occupational health expertise

5.1 Occupational physician

Occupational physicians are medical consultants who “specialise in evaluating and managing the complex interrelationships between work and health” (MLCOA, 2010). In Australia, occupational medicine is a medical specialty recognised by the Australian Medical Council. The recognised qualification is Fellow of the Australasian Faculty of Occupational and Environmental Medicine (AFOEM) of the Royal Australasian College of Physicians. Occupational physicians must satisfy AFOEM’s requirements relating to nine core occupational medicine competencies: clinical, workplace assessment, critical appraisal,

research methods, management, communication, legislation, rehabilitation and the environment (RACP, 2009).

The role of the occupational physician:

...focuses on the inter-relationships between workers, their workplaces and their work practices. The specialty encompasses prevention, treatment and rehabilitation. It deals with health issues of the individual worker, populations of workers, their interaction with their environment and the “health” of the employing organisation. [They] consider medical issues within the wider context of their psycho-social, industrial and motivational frameworks, and have a key role in communicating with employers, business and government. (AFOEM).

The knowledge occupational physicians have is particularly important in the design and evaluation of health programs to be run in workplaces, for the investigation of health concerns and the communication of health risk issues, and for specialist clinical opinions on individual cases of work-related illness.

5.2 Occupational health nurses

Specialist occupational health nurses were the mainstay of occupational health in Australia from the 1970, to the late 1990s. However their numbers have declined in recent years with the focus moving away from site-based health services and those nurses who remain generally expanding their role into the generalist OHS function.

The WHO defines the role of the specialist occupational health nurse as primarily orientated towards:

- a) the prevention of occupational injury and disease through a comprehensive pro-active occupational health and safety strategy
- b) the promotion of health and work ability, by focusing on non-occupational, workplace preventable conditions that, whilst not caused directly by work, may affect the employees ability to maintain attendance or performance at work, through a comprehensive workplace health promotion strategy.
- c) Improving environmental health management, by reducing risk to the working population and the wider community, which contributes to the wider public health agenda. (WHO, 2001)

Occupational health nursing has recently become a specialist group within the Australian New Zealand Society of Occupational Medicine (ANZSOM) who are currently undertaking a review of the role of the Occupational Health Nurse in Australia together with Continuing Professional Development requirements and promotion of the role to employers and industry. It is likely that the clinical knowledge and skills of occupational health nursing will become the focus of their contribution and so generalist OHS professionals may seek their contribution to workplace health promotion, first aid, occupational rehabilitation and health investigations.

5.3 Occupational hygienists

Occupational hygienists are specialists in “the anticipation, recognition, evaluation, communication and control of environmental stressors in, or arising from, the work place that may result in injury, illness, impairment, or affect the wellbeing of workers and members of the community” (AIOH, 2010). The Australian Institute of Occupational Hygienists (AIOH) is the association representing professional occupational hygienists in Australia. The AIOH considers that effective assessment and management of risk in accordance with scientific principles and techniques is fundamental to the occupational hygienist role (AIOH, n.d.). Generalist OHS professionals will require their expertise in the design and evaluation of routine and ad hoc environmental monitoring programs, as well as interpretation and communication of results.

5.4 Ergonomists

Ergonomists are specialists in making the job fit the worker. According to the International Ergonomics Association, an ergonomist is “an individual whose knowledge and skills concern the analysis of human-system interaction and the design of the system in order to optimize human well-being and overall system performance” (IEA, 2010). Ergonomists use the data and techniques of several disciplines: anthropometry: body sizes, shapes; populations and variations biomechanics: muscles, levers, forces, strength environmental physics: noise, light, heat, cold, radiation, vibration body systems: hearing, vision, sensations applied psychology: skill, learning, errors, differences social psychology: groups, communication, learning, behaviours. Ergonomists work at the different interfaces where the user contacts the product or system - physically, mentally, or otherwise. The aim of ergonomics is to develop a comfortable, safe (and thus, a productive) work system, by bringing human factors thinking and data into the plan. (Ergonomics in Australia).

In Australia, professional ergonomists are certified by the Human Factors and Ergonomics Society of Australia (HFESA, 2011). The generalist OHS professional may seek their advice on ergonomic design or evaluation of work spaces and in establishing procurement policies which have adequate process for assessing health impacts, the design of new work processes, and the investigation of jobs and workstations of some individuals returning to work after experiencing work-related injury or ill-health.

5.5 Occupational rehabilitation providers

Occupational rehabilitation providers undertake the case management of workers with injury or illness likely to result in a significant period of time off work with the aim of achieving a recovery and return to work as early as is appropriate. They work with the worker, their health practitioners and the employer to develop an agreed return-to-work plan and then co-ordinate effort to achieve it. It is now being recognised that action within

the workplace, by line managers, is critical to success in return to work (Institute for Work and Health, 2007).

The Australian Rehabilitation Providers Association (ARPA) represents organisations that deliver occupational rehabilitation services across Australia. Those organisations and the people they employ:

...are committed to facilitating the personal, social, occupational and economic independence of individuals with injuries or disabilities. In fulfilling this commitment, rehabilitation consultants work with individuals, employers, insurers, and other medical and health professionals, in a variety of service delivery systems, in order to achieve the best possible outcomes for their clients. (ARPA, 2006)

As well as liaising with specialist occupational rehabilitation providers, the generalist OHS professional may have to establish and manage relationships with community-based health service providers, such as general practitioners, medical specialists, physiotherapists and chiropractors. It is important to recognise that the goals of these health service providers are patient diagnosis and treatment; most of the information they have will come from the patient, for whom they see themselves, rightly so, as advocates. Occupational health specialists and generalist OHS professionals, on the other hand, have two clients – the worker and the employer – and their goals involve determining the worker's ability to work and achieving a return to work as early as appropriate.

6 Summary

The WHO (2001) sums up the situation regarding occupational health and the expertise required to identify and assess occupational health issues and to protect and promote the health of workers:

Occupational health is primarily a prevention-orientated activity, involved in risk assessment, risk management and pro-active strategies aimed at promoting the health of the working population. Therefore the range of skills needed to identify, accurately assess and devise strategies to control workplace hazards, including physical, chemical, biological or psycho-social hazards, and promote the health of the working population is enormous. No one professional group has all of the necessary skills to achieve this goal and so co-operation between professionals is required. Occupational health is not simply about identifying and treating individuals who have become ill, it is about taking all of the steps which can be taken to prevent cases of work related ill health occurring. In some cases the work of the occupational hygienist, engineer and safety consultant may be more effective in tackling a workplace health problem than the occupational health nurse or physician. The multiprofessional occupational health team can draw on a wide range of professional experience and areas of expertise when developing strategies, which are effective in protecting and promoting the health of the working population.However, the modern approach to workplace health management requires close co-operation and collaboration between all of the experts, company management and employees. (WHO, 2001).

Thus the generalist OHS professional has a significant role to play in occupational health, as they do in safety. Importantly, they must recognise that seemingly minor health concerns in workplaces, if not handled correctly, can escalate quickly; that there are salient ethical issues

associated with health information; and that, in common with safety solutions, market forces can result in significant expenditure on health services of doubtful effectiveness.

The generalist OHS professional is likely to be responsible for ensuring that effective occupational health programs – designed in consultation with appropriate occupational health specialists – are implemented, evaluated, and continuously improve.

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