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Short Communication

Defining a "Safe System of Work"

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ABSTRACT

Providing a "safe system of work" is the essence of the general duties that employers have to their employees under workplace health and safety regulations. Despite this, consistent and appropriate definition of what constitutes a safe system of work is almost non-existent. Available definitions tend to confuse a safe system of work with management practices intended to bring about a safe system, or conflate the broad system suggested in general duties clauses with procedures or work methods that are focused on particular hazards or tasks. This article develops a definition of safe systems of work which recognises the broad scope of the concept and includes psychological health and return to work processes. This definition can be used by a range of stakeholders to better communicate the scope of occupational health and safety duties and more consistently assess whether a safe system has been provided both before and after incidents occur.

1. Introduction

The notion of a "safe system of work" is a fundamental concept applied to designing, operating, and evaluating a work system. It is a basic principle in occupational health and safety (OHS) legislation internationally, where it is usually embraced within general duties clauses. For example, employers are tasked with providing a system of work for employees that is, as far as reasonably practicable, safe, and without risks to health (see for example UK Health and Safety Act 1974; Australian model WHS legislation; Hong Kong OHS Ordinance CAP509 [1–3]).

Despite being a central concept in safety practice, logical and comprehensive definitions of what constitutes a safe system of work are difficult to find.

Providing a "safe system of work" is a phrase used to describe the general duties and responsibilities of employers as expected by the courts [4], and health and safety experts are often asked to opine on whether an acceptably safe system was in place. Not having a clear and consistent definition can make expert evidence on safe systems of work more tenuous and open to challenge. Furthermore, this state of affairs can undermine communication about expectations from a regulatory point of view and frustrate the adoption of a systemic approach to occupational health and safety, which has been increasingly advocated [5].

This article outlines problems with existing definitions of "safe system(s) of work", offers a revised definition, and discusses why and for whom having such a definition is important.

2. Existing definitions

Most commonly, documents that refer to employers' duties to provide a safe system of work, such as codes of practice and guidance material, simply do not define the concept [6]. Definitions of safe system(s) of work that have been offered are often incomplete or problematic. For example, some sources define a safe system of work as an "obligation" under law, before describing components that may be part of such a system [7].

Several definitions and usages of the term "safe system of work" equate it with specific safety strategies, practices and procedures, for example,

> *"A safe system of work is a formal procedure which results from systematic examination of a task in order to identify all the hazards. It defines safe methods to ensure that hazards are eliminated or risks minimised" [8].*

Under this definition, an example of a safe system of work would be a procedure on appropriate use of a piece of equipment, such as a forklift. These kinds of definitions are quite narrow.

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Procedures or standardised work methods are only one of the elements that can help make work safe, and they are at the lower end of the hierarchy of risk controls. Procedures can be a "system of work" – a planned way of working, but do not in themselves make the wider system safe. The "safe system of work" referred to in general duties clauses implies a much broader focus than a single task method statement. It incorporates consideration of the workplace context and objectives (as suggested by the general risk management process), as well as the range of relevant tasks, equipment, policies and procedures, training and competencies, as well as workplace culture and organisational structure and leadership.

Further, defining a safe system of work as a task procedure is particularly problematic in complex investigations and legal cases, such as those involving psychological injury. Like many workplace incidents, psychological injury cases involve many interacting failures at all levels of a workplace system (for example lack of support, poor supervision, lack of monitoring, and poor return to work practices). A procedure or set of rules for working will not create a safe system of work in such cases.

3. Confusion with safety management systems

There is also a temptation to define a safe system of work by referring to descriptions of a safety management system [9]. An Occupational Health and Safety Management System (OHSMS) has been defined as

> *"a set of institutionalised, interrelated, and interacting strategic health and safety management practices designed to establish and achieve occupational safety and health goals and objectives" [10].*

OHSMSs are sometimes used by organisations to organise and manage their safety activities, and implementation of such systems is not always required by legislation or regulatory bodies. Confusing safe systems of work and OHSMSs is understandable; however, an important distinction should be made. A management system contains the plans, policies and accountabilities to achieve and administrate safety. A safe system of work may emerge from a well-implemented, resourced, and comprehensive safety management system. However, the existence of a safety management system does not necessarily create a safe system of work. Indeed, it is possible for a system of work to be inherently safe without such interventions. Conversely, a poorly designed and poorly implemented occupational health and safety management system may not, for various reasons, adequately render work safe. The comparison of actual practice with intended management plans often reveals gaps in delivery. Equating one particular mechanism for achieving a desired outcome (the OHSMS) with the desired outcome itself (a safe system) is logically flawed and, in the case of workplace health and safety, disadvantageous for all stakeholders.

4. A proposed definition

Based on the aforementioned analysis, we offer the following expanded definition of a broad, over-arching safe system of work consistent with general duties under Robens-style legislation:

A Safe System of Work is characterised by an integrated, continually improved set of activities undertaken within a specified work context which together:

- *ensure that work tasks, work environments, and processes are designed such that they are unlikely to result in physical or psychological harm to the relevant stakeholders;*
- *identify and control foreseeable risks to acceptable levels;*
- *minimise harm when it occurs; and*
- *facilitate return to work processes.*

Relevant stakeholders may include workers (including managers) and senior management, or a range of other people or groups depending on the work context. For example, for some businesses, relevant stakeholders may include clients, customers, passengers, visitors, or members of the public.

All types of hazards may have the potential for physical or psychological harm associated with them. For example, hazards that are typically considered to be "physical" such as heat, biological hazards, or hazardous manual tasks can result in physical harm of burns, infection, and musculoskeletal disorders, respectively. At the same time, exposure to these hazards can have psychological harms (e.g., related to anxiety of exposure, or social pressure to perform hazardous tasks). Psychological sources of harm, such as exposure to work overload, role conflict, or bullying and harassment can relate to psychological and physical harm (e.g., disturbed thoughts and emotions, as well as nausea, headaches, and fatigue. The impacts of psychological sources of harm nonetheless have physiological mechanisms.

The proposed definition has several advantages and may be useful for a range of stakeholders and purposes. A broad, system-wide description of the general duties of care imposed on workplaces in relation to safety is advantageous because it reflects the interaction of various actions that help provide safety, rather than focussing on individual hazards, or individual controls.

One aspect that sets this proposed definition apart is that it emphasises the importance of work design in achieving a safe system of work [11]. This focuses occupational health and safety activities on proactive, preventative strategies rather than less effective risk control strategies after problems have already emerged.

The aforementioned definition is also more comprehensive in relation to duties, in that it includes psychological harm. The inclusion of psychological health within health and safety duties has recently received more recognition (particularly in legislation, and best practice, such as the new International Standard ISO45001). Despite this, evidence suggests that businesses typically do not have a high degree of awareness of the need for psychological elements within their health and safety systems [12,13] and psychological health is often not considered in health and safety management systems [14]. Including these issues in the description of a safe system of work draws attention to the fact that preventing and managing psychosocial hazards are key parts of an integrated and comprehensive safety system.

The management of return to work following an injury is an area that requires further attention within occupational health and safety practice. This definition incorporates recognition of the importance of supportive return to work practices in a wider safe system of work. After injury, regardless of temporary or permanent impairment, people must be returned to safe systems of work. Data on outcomes for injured workers indicate significant negative experiences for injured workers, and particularly for those with psychological injuries [15]. Incorporating the return to work system into the wider safe system of work, as this definition does, is a more complete view of the duties to provide safety before injury or illness, during their management, and in rehabilitation, when a worker returns to what might be a different job.

The potential users of this revised definition include

- Managers and duty holders, for whom a summary of the scope of the system may aid in understanding their duties;
- Inspectors and regulators who need to support and train duty holders

- Consultants, researchers and educators working in the training, development and evaluation of safe systems of work;
- Occupational health and safety experts, who need to consistently evaluate whether, and to what extent, aspects of a safe system were present when providing evidence to court, for example; and
- Workers who need information on the breadth of what should be expected in their workplaces.

The proposed definition of safe systems of work seeks to clarify the concept expressed in many general duties clauses around the globe. It is anticipated that it will be of use to all stakeholders in health and safety practice.

Conflicts of interest

The authors do not wish to declare any competing interests or funding sources.

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