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International Comparison of Occupational Health Systems and Provisions

A Comparative Case Study Review

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Executive Summary

There is a growing understanding of the impact of work, working conditions and organisational systems on the health and wellbeing of employees (Leka and Jain, 2010) and society at large (Hassard et al., 2018a; Hassard et al., 2018b; Hassard, Teoh, and Cox, 2019). An estimated quarter of the working population across the 27 European Union member states report suffering from a chronic illness and a fifth long-standing health issues (Wevers et al., 2011). A key challenge facing policy makers is to implement measures that promote job retention and effective return to work practices among people with reduced work capacity, and consider methods or employer-led incentives to encourage the active recruitment and retention of such individuals into the workforce (OECD, 2010). The provision of occupational health (OH) services is an important avenue to support the health, productivity (including economic productivity) and sustainable work capacity of the working population.

The aim of this research project was to conduct a comparative review of 12 international case studies detailing national-level OH systems and provisions of services. A key objective was to provide a summary-level overview and comparative analysis across reviewed systems. The research was conducted in three iterative stages. First, a literature review was conducted and a diverse set of countries selected to examine as case studies: United Kingdom, Australia, Canada, Germany, the United States of America, the Republic of Ireland, the Netherlands, Finland, France, Poland, Italy, and Japan. Second, a more detailed review of the literature was conducted to draft the series of case studies. Finally, the information collected and presented in each case study was used to conduct a comparative analysis, with the aim to identify variations in the content, systems, structure, coverage, and delivery of reviewed national-level OH systems and provisions.

A comparative analysis was conducted across several key topic areas: the legal and policy context, the organisation and delivery of OH services, financing and coverage of such systems, minimum standards of such services, the involvement of OH professionals involved in delivery of care, and employers' responsibilities and methods used to support and incentivise employer-led actions. Interesting and unique examples from national level practice were identified and, where possible, critically examined.

Across countries there exists variation in terms of the organisation of structures designed to perform OH orientated tasks, and in how and by whom such services are delivered. All reviewed countries have developed some kind of OH policy; with some countries having a singular, integrated piece of legislation, and others implementing policies across a variety of governance domains. A role for both employers and the state in the delivery and funding of OH systems was common across the reviewed countries. A number of priority areas for policy development were also commonly observed, examples include: increasing employer-led initiatives, addressing the shortage of occupational physicians (and other OH professionals) nationally, and actively managing and preventing mental ill-health at work through (and beyond) OH systems. Across all reviewed countries, gaps and challenges in regard to the implementation, coverage and capacity of OH systems were identified.

Abbreviations Used

DHSC – Department of Health and Social Care
DWP – Department for Work and Pensions
EU-OSHA – European Agency for Safety and Health at Work
GP – General Physician (or General Practitioner in the U.K.)
ILO – International Labour Organization
ISSA – International Social Security Association
NESTA – National Endowment for Science, Technology, and the Arts
OH – Occupational Health
OECD – Organization of Economic Cooperation and Development
OP – Occupational Physician
OSH – Occupational Safety and Health
RTW – Return to Work
SME – Small- and Medium-sized Enterprise
WHO – World Health Organization

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Background

The importance of sustainable employment is a growing area of interest to policymakers (Wevers et al., 2011) and organisations (Zwetsloot & Pot, 2004) alike. The European 2020 Strategy set a target of a 75% employment rate for those aged between 20-64 across the European Union (EU; Wevers et al., 2011). However, 23.5% of the working population across the 27-EU Member States report suffering from a chronic illness and 19% report long-standing health issues (Wevers et al., 2011). A key challenge facing policy makers is to implement measures that promote job retention and effective return to work practices among people with reduced work capacity, and consider methods or employer-led incentives to encourage the active recruitment and retention of such individuals into the workforce (OECD, 2010). Consequently, the proactive management of workers' health is of central importance in ensuring and enhancing the wellbeing and productivity of the working population; and, in turn, achieving key sustainable employment goals (WHO, 2002; Rantanen, Lehtinen, & Iavicoli, 2013).

Why Consider the Impact of Work on People's Health and Wellbeing?

There is a growing understanding of the impact of work, working conditions and organisational systems on the health and wellbeing of employees (Leka and Jain, 2010) and society at large (Hassard et al., 2018a; Hassard et al., 2018b; Hassard, Teoh, and Cox, 2019). Health and wellbeing has a direct impact on employees' productivity, their availability for work, and/or their capacity to remain in work (European Agency for Safety and Health at Work (EU-OSHA), 2014; Eurofound & EU-OSHA, 2014). In many countries, absences from work are typically due to work-related stress, mental health conditions and musculoskeletal symptoms. Some national-level examples include:

- From 2003 to 2010 in Australia, mental health conditions had the highest rate of 'unfit for work' certificates issued by GPs among six common categories of work-related conditions (Collie et al., 2013).
- Around half of all days lost to sickness in the Netherlands were due to musculoskeletal symptoms and psychological symptoms, stress, or burnout (TNO, 2016).
- In Japan in 2016, the leading cause of sick leave was common mental health disorders (Nishiura et al., 2017).
- In 2018, the most commonly reported reasons for absence from work in the UK were: minor illnesses (e.g. coughs and colds; 27.2% of the total days lost), musculoskeletal problems (19.7%) and mental health issues (e.g. stress, depression, anxiety; 12.4%; Office for National Statistics (ONS), 2018a).

From an employer perspective, the most reported concerns regarding the health and wellbeing of employees are stress, musculoskeletal conditions, repetitive strains or injuries, and common mental health disorders (Tu, Maguire, Shanmugarasa,

2019). However, despite such reported concerns, an estimated four out of ten British employers do not have an organisational policy on the prevention and management of work-related stress (European Survey of Enterprises on New and Emerging Risks; EU-OSHA, 2016). The economic costs associated with decreased employee capacity resulting from ill health (EU-OSHA, 2014; Hassard et al., 2018a; Hassard et al., 2018b) and injury (EU-OSHA, 2019; Hassard et al., 2019) are considerable. For example, the cost of work-related injuries and illnesses result in an estimated loss of 3.9% of all work-years and 3.3% of those in the EU, equivalent to a cost of approximately EUR 2,680 billion and 476 billion, respectively (International Labor Organization, 2017 as cited in EU-OSHA, 2017). The estimated economic cost associated with mental health problems at work, for example, highlights the scale of the challenge facing employers (and, more broadly, governments; EU-OSHA, 2014; Hassard et al., 2018a). The total estimated cost to employers due to mental health related absence (accounting for the costs associated with absence, presenteeism[1] and turnover) is £25.9 billion annually (The Sainsbury Centre for Mental Health, 2012). This study found the costs of presenteeism (attending work while ill) to be 1.5 times more than those associated with mental-health related absence. This highlights the need and economic value for employers to actively manage employees' return to work following sickness absence; but also the need to engage in prevention activities where possible and to support retention through adaptations to employees' work and work environment. A recent review conducted by Hassard and colleagues (2018a) examined the estimates of the economic burden of work-related stress to national-level economies internationally. Evidence was identified from Australia, Canada, Denmark, France, Sweden, Switzerland, the United Kingdom, and the EU-15. The total estimated cost of work-related stress was observed to be considerable, ranging substantially from US $221.13 million to $187 billion annually. Productivity-related losses were observed to proportionally contribute most of the total cost of work-related stress (between 70 to 90%), with health care and medical costs constituting the remaining 10 to 30%.

Strengthening the provision of occupational health (OH) services allows for better response to and management of the health and work needs of the working population (Rantanen, Lehtinen, & Iavicoli, 2013). Traditionally, OH has been focused on protecting employees from work-related ill health, but there is now an increasing focus on wellbeing interventions preventing ill health in the workforce and dealing with all potential causes of ill health, not just work. Therefore, the development and enhancement of OH services at the national level is central to ensuring the sustainable health, wellbeing and work engagement of the working population (WHO, 2002). However, there exist notable variations in the content, capacity and coverage of occupational health systems, and provisions vary considerably across national contexts (WHO, 2002).

Obtaining a global understanding of the similarities and observed variations in such OH services and provisions internationally is, therefore, essential. Such comparative information can support and help inform evidenced-based decision making at both policy and practice levels. This report reviews the key policies, standards, principles, and approaches in OH systems and services, using both the academic and grey literatures, across twelve industrialised countries. It is important to note, this report – and the summarised case studies there within – should not be viewed

[1] Reduced productivity due to ill-health.

as an exhaustive or comprehensive overview of the examined OH systems not least because we only reviewed 12 countries and were limited to content that was accessible and published in the English language. However, we have ensured (to a proportionate extent) that the summarised information is accurate and a fair representation of the national system and approach.

The Role of Occupational Health Services

There is no internationally agreed accepted definition of OH services or, indeed, of their objectives or their role. The field of OH (like occupational health and safety) had its genesis in the industrial revolution. However, each country's OH system (inclusive of its focus, systems, and key activities) has been influenced by its historical, social, and environmental background.

After the Second World War, the International Labour Organization (ILO) and the World Health Organization (WHO) were the first to attempt to define OH services. In 1950, the joint ILO and WHO committee on OH described the essential content of OH services as "*the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations by preventing departures from health, controlling risks and the adaptation of work to people, and people to their jobs*" (ILO/WHO 1950, revised 1995). Within this broad definition, they highlight five key objectives of OH services:

- the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations;
- the prevention of significant departures from health among workers caused by their working conditions;
- the protection of workers in their employment from risks resulting from factors adverse to health;
- the placing and maintenance of workers in an environment adapted to their physiological and psychological capabilities; and
- the adaptation of work to workers and of each worker to their job.

In 1985, the ILO published the Convention on Occupational Health Services (1985; see Appendix A for full summary). This policy document outlines many of the key principles, tasks, conditions, and operating conditions of OH services. This ILO Convention provides, therefore, a useful framework in which to understand what (ideally) characterises OH services, and their role in protecting and promoting workers' health and wellbeing (Fedotov, 2017). It highlights the importance of comprehensive coverage across all workers, and sets out that these services may be organised using a variety of approaches: single or group service models, public authorities or official services, social security institutions, any other bodies authorised by the competent authority, or a combination of any of these. This ILO Convention acknowledges the importance of such services being delivered by a multidisciplinary team of professionals who should have full professional independence from employers and workers. To date, it has been ratified by 28 countries. However, many countries use it and its accompanying Recommendations voluntarily as models for establishing requirements for the organisation and functioning of OH services (Fedotov, 2017).

The World Health Organization (WHO) outlines ten key functions of a well-developed OH service (WHO, 2002), which broadly range from prevention-focused actions (e.g. assessing and monitoring occupational risks) to curative and rehabilitative measures (i.e. work(place) adaptations). These ten key functions are:

- The surveillance of the work environment;
- Initiative and advice on the control of hazards;
- The surveillance of the health of employees;
- The follow-up of vulnerable groups;
- The adaptation of work and the work environment to the worker;
- The organisation of first aid and emergency response;
- Health education and health promotion;
- The collection of information on workers' health;
- The provision of curative services for occupational diseases;
- The provision of general health care activities.

In 1992, the Joint ILO/WHO Committee (1950) emphasised that the scope of OH is very broad, and is directly informed by many disciplines, such as (but not limited to) occupational medicine, occupational nursing, occupational hygiene, occupational safety, ergonomics, engineering, toxicology, environmental hygiene, occupational and rehabilitation psychology, and personnel management. Consequently, there is a clear need for (and value in) OH services to be multidisciplinary and multi-sectoral. That is, OH services should be jointly delivered by OH (and safety) professionals and other specialists both within and outside the company. The active participation of employers and workers in the provision of such services and OH programmes has previously been observed to be an essential prerequisite for successful delivery of such services and OH management practices (Coppée, 2011).

Aim of the Report

The Work and Health Unit (WHU) is a UK government unit which brings together officials from the Department for Work and Pensions (DWP) and the Department of Health and Social Care (DHSC) to lead the government's strategy supporting working age disabled people, and people with long term health conditions to enter, and stay in, employment. To enable this, the government aims for more individuals to have access to appropriate and timely OH advice.

As set out in 'Health is everybody's business',[2] the government recognises that action is required to ensure employers can purchase good quality, cost-effective OH services that meet their needs. In order to gain a greater understanding of the OH landscape internationally, including how systems vary, to inform potential policy approaches on issues like system regulation, the WHU commissioned research that aimed to conduct a comparative review of 12 international case studies detailing national-level OH systems and provisions. A key objective of this review was to provide an overview of the OH systems and provision of services, with the aim to identify variations in their content, systems, structure, coverage, and delivery. It was also important to understand how different OH systems are designed to drive positive employment outcomes More specifically, this report reviews the following topic areas:

- The legal and policy context;
- The organisation and delivery of OH services;
- Financing and coverage of such systems;
- Minimum standards;
- OH professionals involved in delivery of care.
- Employers' responsibilities and methods used to support and incentivise employer-led actions.

It is important to note that, in certain topic areas, information was not readily available in the published (grey or academic) literature or available in English. Therefore, a concerted effort to capture, detail, compare and critically evaluate defining characteristics of such systems was employed. However, such accounts should not be viewed as exhaustive accounts, but as a 'snapshot' of some of the key defining characteristics of each reviewed system. Where such detailed information is missing or not available within a given case study, concerted effort to highlight this has been attempted.

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/815944/health-is-everyones-business-proposals-to-reduce-ill-health-related-job-loss.pdf

Method

The aim of this section is to provide a brief overview of the methodology used to conduct the comparative international case study review. For a comprehensive overview of the utilised methodology for this research project, see Annex B. The project was conducted in three key stages: literature review and case study selection, the development of case studies, and comparative analysis. Each stage of the project is described in the following sections.

Literature Review

A literature review was conducted as a preliminary step to this project. The aim of the literature review was to examine the key definitions, approaches and areas of development in OH systems and provision of services. Both the academic and grey literatures were searched. However, only information published in English could be reviewed and extracted, due to the language restrictions of the research team.

The results of the literature review were used to inform: (i) the selection of case studies to be detailed and reviewed; (ii) the development of a case study template used to support the research and description of each national context; and (iii) the comparative analysis.

Development of Case Studies

In agreement and consultation with the DWP and DHSC joint Work and Health Unit, 12 countries were purposively selected to be examined as case studies. The selected national contexts were considered in relation to their: comparability to the UK, diversity in approaches to the delivery of OH, and national model of welfare and healthcare systems. A concerted effort was made to ensure a collection of case studies that provided a suitably global overview of existing services and systems. The national contexts examined were the UK, the Republic of Ireland, the Netherlands, France, Germany, Italy, Finland, Australia, Canada, Poland, the United States of America, and Japan.

The development of case studies was conducted in two phases. Firstly, 12 case studies were detailed using a short and focused case study template (Annex D). This preliminary stage sought to provide a cursory overview of each case study across a limited number of topic areas, including: a brief account of the national context; the legal and policy context; the content, coverage and delivery of OH services; and a review of key performance indicators.

Based on the 12 short case studies, six were selected for more detailed analysis and further critical evaluation (referred to as the ‘enhanced’ or ‘stage two’ case studies- see Annex D). The countries were chosen to yield a diverse range of OH models to examine, and to give a suitably international sample. The aim of the stage two case studies was not to provide an exhaustive account of such systems and provisions, but rather to provide a concentrated focus on their implementation, evaluation, and the socio-historical context.

The NESTA (National Endowment for Science Technology and the Arts) standards of evidence for impact (NESTA; Puttick & Ludlow, 2012) was utilised to support the critical evaluation of evidence regarding system-level impact and performance. The aim of this approach is to help assess the quality of the evaluation and to inform understanding of its impact. NESTA outlines five levels of evidentiary strength, ranging from one (weak evidence of impact) to five (strong evidence of impact). See Annex C for a summary of levels one to five.

Comparative Review of Case Studies

On completion of the 12 case studies a comparative analysis was conducted, informed by the principles of framework analysis (Spencer & Richie, 2002). The aim of this analysis was to compare and contrast key characteristics, features and systems utilised across the examined national contexts. As stated previously, the findings from this comparative analysis were informed by the literature review conducted in an earlier phase of this project.

Legal and Policy Context

The comparative review of case studies begins by examining the policy and legal contexts that, directly or indirectly, underpin or inform the organisation and delivery of OH service within countries. Case studies were selected to allow comparison at multiple levels. Therefore, this section seeks to examine such reviewed contexts at international, European, and national levels.

International Context

The International Labour Organization (ILO) plays a central role in the formulation of global OH policies and international labour standards. International labour standards are legal instruments[3] developed in partnership between governments, employers and workers, which seek to set out basic principles and rights at work (ILO, n.d). Such legal instruments can be specified as either conventions (legally binding international treaties that may be ratified by Member States), or as a set of recommendations (non-binding guidelines). Typically, a *convention* seeks to specify the basic legal principles to be implemented at the national-level; while a *recommendation* supplements the conventions with a more detailed set of guidelines to support its translation and application into national-level systems. However, it is possible for recommendations to exist in isolation of such conventions. The literature review identified three ILO conventions of particular interest in relation to OH systems and provision services, namely (listed in historical order; see Table 1): Occupational Safety and Health Convention (1981), Convention on Occupational Health Services (1985), and the Promotional Framework for Occupational Safety and Health (2006). All three conventions have a concentrated focus on prevention-focused measures through the identification and management of work-related risks.

The Occupational Safety and Health Convention (1981), very broadly, outlines the basic principles of a national policy on workers' health and safety. A key principle of the convention is for ratifying members to formulate, implement and periodically review a coherent national policy on occupational safety, OH and the working environment. This convention does not directly outline the requirement for OH services. However, this convention has the potential to indirectly lay the foundation for further health and work policies (including OH) to be developed.

The Convention on Occupational Health Services (1985) outlines the basic principles and characteristics for the provision of OH services. Annex A provides a detailed overview of the contents of this convention. The convention characterises OH services as having two overarching strategic aims. First, they have an essentially preventive function and responsibility for advising the employer, the workers and their representatives on the necessary measures needed to establish and maintain a work environment that cultivates the optimal physical and mental health of workers. Second, they should provide guidance and support in the adaptation of work and the

[3] **Legal instrument** is a **legal** term that is used for any formally executed written document that **can** be formally attributed to its author, records and formally expresses a **legally** enforceable act, process, or contractual duty, obligation, or right, and therefore evidences that act, process, or agreement.

work environment to the capabilities of workers in the light of their state of physical and mental health. More specifically, the convention outlines 11 key functions of OH services that broadly relate to:

- Supporting and advising key actors (e.g. employers, workers, etc.) in the necessary steps to ensure a healthy workplace and environment. Achieved through activities such as the surveillance of the work environment and the identification and management of risks to health (at work and beyond).
- Ensuring the protection and promotion of workers' health through essential functions such as health surveillance, health education and health promotion, first aid provisions, curative services for occupational disease, and general health care activities.
- The adaption of work and the work environment to the capabilities of workers to support the retention, reintegration, and inclusion of workers with a disability, illness, or injury.

The **Promotional Framework for Occupational Safety and Health (2006)** includes both a convention and an accompanying set of recommendations. The main pillar of this convention is the formulation and development of national-level occupational safety and health programmes, with the aim of strengthening the entire OH and safety system. Within this convention, OH services should be considered an integral element of the national occupational safety and health (OSH) system, where their content, system for delivery, and strategy to increase coverage of workers is defined and outlined within national OSH policy. Table 1 provides an overview of which of these three conventions have been ratified across the 12 examined countries.

Across the reviewed case studies, Finland is the only country that has ratified all three ILO conventions that either directly or indirectly address OH service provision. Among the 12 countries examined, only three countries have ratified the Occupational Health Services Convention: Finland, Germany, and Poland. It is important to note, however, that just because a country has ratified this convention this does not, however, mean it is fully compliant.

Among many, if not all, of the reviewed case studies, many of the key principles and practices outlined in the ILO Convention on Occupational Health Services are defining features of the national-level systems used to organise and deliver such services, and are typically enshrined in many national laws (ILO, 2011). Therefore, many countries do voluntarily draw on many of the key principles outlined in the ILO Convention on Occupational Health Services to support the provision and delivery of OH services at the national level, as discussed in the sections below. See Table 2 for an overview of some of the measures used within and across reviewed countries.

Table 1. International policy: ratification of ILO conventions/recommendations relevant to OH services by member states no date)

Convention or Promotional Framework	Summary of Policy	Australia	Canada	Finland	France	Germany	Republic of Ireland	Italy	Japan	Netherlands	Poland	UK	USA
Occupational Safety and Health Convention, 1981	Sets objectives and basic principles of a national policy on workers' health and safety, and the requirements to formulate, implement and review a national level on policy occupational safety, OH and the working environment.	✓ ('04)		✓ ('85)			✓ ('95)			✓ ('91)			
Occupational Health Services Convention, 1985	A policy instrument that covers the provision of OH services. This Convention specifies the key principles and defining characteristic of such services and national-level systems.			✓ ('87)		✓ ('94)					✓ ('04)		
Promotional Framework for Occupational Safety and Health 2006	Outlines principles and defining components for national-level programmes aimed at promoting healthier and safer work environments, inclusive of the provision of OH services in accordance with national law and practice.		✓ ('11)	✓ ('08)	✓ ('14)	✓ ('10)			✓ ('07)			✓ ('08)	

Information in parentheses indicates the year convention was ratified by member state.

Table 2. National-level examples of key principles and functions of ILO Convention on OH Services applied in non-ratifying countries

Principles and Key Functions	**National Examples**
Multidisciplinary team of OH professionals	Germany and the Netherlands require the delivery of OH services by a *multidisciplinary team* of OH professionals. Recent policy level reform in France (Decree 2016-1908 on modernisation of OH services) highlights the importance of the delivery of OH services by a *multidisciplinary team of professionals.*
OH professionals have independent status from employer and worker	In France, Occupational Physicians' (OPs) employment contracts must be permanent to give them independent status from the organisation.
Health surveillance	In France, health surveillance is compulsory for all private and public sector organisations with one or more employees. In Italy, an estimated 10,000 OPs provide health surveillance to private and public sector companies and trades across Italy.
Health education and health promotion	In Japan, employers have a number of obligations in support of workplace health promotion, including providing employees with health guidance (delivered by OPs) targeting employees working long hours (>100 hours of overtime per month or >80 hours per month in past 2-6 months). In the Netherlands, OPs must provide a free accessible consulting hour for employees with questions about work and health.
Work surveillance and monitoring risks	Employers' responsibility to conduct such risk assessment procedures spans all reviewed case studies. OH or OSH professionals may support them in this role. In the UK, employers are required to appoint a competent professional to support them in this duty. In the Netherlands and France, the OP must check, monitor and approve this process.

Principles and Key Functions	National Examples
Collecting information on work-related ill health	In Great Britain, information on work-related ill health, illness and injury is collected and monitored through various data sources (with different source reporting on different health conditions), for example: • Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations (RIDDOR), • Labour Force Survey (monitors self-report work-related ill health and workplace injuries), • The Health and Occupation Research Network (THOR; voluntary reporting of occupational diseases by specialist doctors). • The Health and Occupation Research Network in General Practice (THOR-GP; voluntary reporting of occupational diseases by General Physicians). • Surveillance of work-related and occupational respiratory disease (SWORD). • The EPIDERM scheme collects reports of cases of occupational skin disease from consultant dermatologists.
Curative services	In many countries access to these services may be achieved through in-house, external or group services (e.g. Finland, Italy, France, Japan, Australia, Canada, USA, UK), with many national health systems also delivering curative services to ill workers (UK, Republic of Ireland, Canada, Australia, Italy etc.). In many other countries, social security institutions (such as workers' compensation in Canada, USA, Australia, Italy) may also provide access to such services.
Adaptation of work of work environment	Many of the reviewed countries (e.g. Australia, the UK, Germany and the Netherlands) require the promotion of adaption of work for workers. For example, in the Netherlands there is a set of legally prescribed steps and timeframes to support the return to work process (including the modification of work/ work environment).

European Context

Eight case studies are (at the time this review was commissioned) member states of the European Union, including the UK. The policy and legal context within this union is examined in this section. Within this European context, the European Agency for Safety and Health at Work (EU-OSHA) plays an important and central role as an information agency.

The aim is to provide a brief overview of the key directives that, directly or indirectly, influence the organisation and provision of OH services. In many national contexts, the legal requirements are typically situated within health and safety legislation specifically. There are, however, a few countries that have specific pieces of legislation directly related to the organisation and remit of OH services which are presented separately from national level health and safety regulation. National level examples include Poland, Finland, Germany and France.

Within the European context, the development of OH services is, in part, informed by the transposition and implementation of the Framework Directive 89/391/European Economic Community on Safety and Health at Work within each reviewed European Member State. In particular, articles 5, 6, 7, and 14, which may have implications on the task, methods, and structures of OH services. Articles 5 to 7 are primarily focused on, and situated within, the broader agenda of health and safety, as they have a concentrated focus on the surveillance of the workplace and work environment. However, while these articles primarily focus on health and safety practices, they may support OH indirectly through informing a wider set of work and health policies.

- *Article 5:* The employer has a duty to ensure the health of workers in every aspect related to work, including both the physical and mental health of workers.
- *Article 6:* Employers must employ the measures necessary to ensure health protection of workers, including prevention of occupational risk and the provision of training and education.
- *Article 7:* The employer shall designate one or more workers to carry out activities related to the protection and prevention of occupational risks for the enterprise.
- *Article 14:* Highlights the importance of the surveillance of workers' health, and of the four articles is more clearly situated within the OH space. Employers must ensure that workers receive health surveillance appropriate to the health and risks encountered by workers at work.

While this Directive sets out a broad legal framework for Member States to adhere to, how such principles are transposed and enacted in national law is at the discretion of the country. Despite the harmonisation efforts of Member States, there continues to exist wide variation between the national laws and practices stipulating OH services (WHO, 2002). For example, some Member States require provision of OH services to all working people for health conditions (not necessarily exclusively work-related), while others require coverage only of those "in need" (WHO, 2002; Hämäläinen, 2008). In Germany, for instance, the Framework Directive was adapted in a direct transposition of the Occupational Safety and Health Act, which paved the way for the general provision of comprehensive multidisciplinary OH services to all employees across all organisation sizes (excluding, however, the self-employed; Froneberg, 2007).

In most European countries, employers are required to organise OH services for their employees. However, such requirements may vary according to the size of the organisation. For example, in France, there are two broad types of OH services operating: OH 'group service enterprises' (or inter-company services, generally for smaller sized companies) and 'autonomous' (in-house) OH services run by an individual company. The choice of delivery method is largely made according to the number of employees to be covered or the annual number of medical check-ups needed as prescribed by French law.

Furthermore, the legal requirements of OH services vary considerably in their required content, methods of delivery and staffing requirements (see Table 3). Amongst our 12 case studies, the outlined obligations are strictly enforced in countries such as Finland, France, Germany, Italy, and Poland (Westerholm, 2007). However, there is no corresponding legal requirement in the UK or in the Republic of Ireland (Irish Health and Safety Authority, 2007; the Irish Health Services Executive does however provide several OH services). Beyond our reviewed European case studies, the provision of OH services in Japan is specified by law which sets out clear responsibilities for the employer; however, no such legal requirements exist in Australia, Canada, or the USA.

National Context

The aim of this section is to examine and categorise each case study, based on their legal approach to the provision of OH services. The aim of this section is not to provide an exhaustive account of all key legal documents that directly or indirectly relate to OH services, but is to provide a broad comparative review to this area. More specific and targeted discussions can be found in the proceeding sections which look at legal requirements surrounding, for example: sick pay, vocational rehabilitation, and work adaptation (section entitled "Employer-led OH Care and Management").

While all reviewed countries have laws relating to various aspects of the provision of the care and management of workers' OH, the structure of the legislation, its content, and the employees covered vary widely. The existing literature characterises two key typologies of legislation regulating OH services within national-level policy and legal frameworks (Rantanen & Fedotov, 2011): *Type A and Type B*.

Type A forms of legislation are typically enshrined in a single act stipulating the OH service as an entity, with a concentrated focus on the provision of an integrated, multidisciplinary service. This legal act typically stipulates the objectives, activities, obligations and rights of the various stakeholders (e.g. employees and employers), the conditions of operation, as well as the qualifications of professionals' delivery of such services. In the context of this review, there are a number of countries that have enacted specific laws that regulate the activities of OH services, determining the nature of provision (i.e. medically oriented vs multidisciplinary etc.) and stipulating roles and responsibilities of various key stakeholders (e.g. employers and OH professionals). Within such national contexts, typically the delivery of OH services is stipulated through national-level law, for example in Finland, Germany, Poland, the Netherlands, Italy, Japan and France (see Table 3).

Examples of **Type A legislation** from the case studies:

- In Finland the OH Care Act (1383/2001) applies to all employment under which the employer is bound by the Occupational Safety and Health Act (738/2002). The OH Care Act focuses on preventing work-related disorders, but it also covers more traditional areas of health and safety (such as prevention of industrial accidents). The Act aims to promote cooperation between employers, employees (typically through OSH committees or representatives) and OH service providers. The Act specifically defines the professional expertise needed by OH service units, and mandates surveillance procedures of the organisation and delivery of such services (Husman & Husman, 2005).
- In Poland following the implementation of the OH Services Act (No. 593 of 27 June 1997), the OH service was divided into two separate services. First, the Work Safety and Hygiene Service where the creation and financing of this service is the responsibility of the employer, as is ensuring that the employees work in a safe and healthy environment. Second the Occupational Medicine Service, where the responsibility for its creation lies with the Minister of Health. It operates independently. Together these two services are collectively responsible for ensuring the safety, hygiene and healthiness of Polish workers' work and their work environments.

In contrast, **Type B forms of legislation** (Australia, Canada, Republic of Ireland, UK and USA) are more fragmented. Instead of a single act stipulating the OH service as an entity, it involves a few laws that oblige employers to carry out certain activities or discrete tasks. For example, OH services may be characterised as a set of specialised and independent services (e.g. return to work management, health screening, occupational safety and hygiene services, and workplace health promotion programmes). The implementation of such specified and legally prescribed OH services may be clearly stated within national legal frameworks; or might be presented in more 'general, non-specific' terms, leaving the organisation and, in turn, delivery of such services open to interpretation by key stakeholders (e.g. employers; Rantanen & Fedotov, 2011). Within this review, it was observed that for many of the reviewed countries the legal parameters, and defining characteristics and requirements of OH service provision, are typically covered within a diverse set of legislative frameworks, for example: health and safety, social security, and labour law.

Seven of the reviewed countries legally require the organisation of OH services (Germany, Poland, Italy, the Netherlands, Japan, France, and Finland) within their national legal framework: Type A. Among the remaining case studies, OH services are considered (either directly or indirectly) through other legislative frameworks: Type B. See Table 3 for an overview. The case studies provided in the Annex of this report provide a broader overview of such policies and regulations.

Key conclusions:

- A limited number of reviewed countries have formally ratified key policy documents that support the provision and delivery of OH services. However, many countries voluntarily ascribe to several key principles outlined in the ILO Convention on OH Services.

- Proportionally more case studies have ratified conventions on broader occupational safety and health frameworks, than that which specifically covers the organisation of OH services. However, it is important that systems fundamental to supporting OH services are outlined in such policies.
- All reviewed case studies outline the provision and delivery of OH services (in varying degrees, either directly or indirectly) within their legal frameworks. Just over half of the reviewed case studies utilised a 'Type A' legislative approach to the provision of OH services, as opposed to 'Type B' approaches.

Table 3. Overview of the Type A legislative approach across the reviewed case studies

	How Organisation of OH Services is Addressed in the National Legal Framework	Examples of OH Care and Management Provisions Required by Law
Finland	The organisation of OH services is governed by the Act on Occupational Health Services and supported by the Government Decrees on the principles of good occupational health care practice, the content of occupational health care, and the qualifications of professionals and experts.	Employers have a duty to pay for preventive health care for their employees. OH care is multidisciplinary, where employees may receive services of a nurse, occupational doctor, occupational psychologist, and often physiotherapists.
France	The organisation of OH Services is governed by Decree 2012-137 on the organisation and operation of occupational health services and Decree 2016-1908 on modernisation of occupational health services. The role and responsibilities of occupational physicians, as key players in the delivery of this system, is governed by Law 2011-867 on the organisation of occupational medicine and Decree 2012-135 on the organisation of occupational medicine.	Occupational medicine must be provided to all employees. OH provision is compulsory for all companies with one or more employees. Health surveillance of all public and private sector workers.
Germany	The organisation of OH services is governed by the Occupational Health & Safety Act and the Act on Occupational Physicians, Safety Engineers and other Occupational Health and Safety Specialists.	Employers are legally required to show they have OH "health and safety" support. The obligation only relates to injury and ill-health prevention. OH services are multidisciplinary employing at least an OP, safety engineer and psychologist.
Italy	The organisation of OH services is governed by Decree No. 81/2008 on Health & Safety at Work (modified by Legislative Decree No 106/2009) and by Decree 38/2000 on list of recognised occupational diseases and occupational disease insurance.	All public and private sector employers must provide access to OH services for all workers. Employers must appoint an OP and ensure the necessary conditions for them to perform their required tasks and maintain professional autonomy.

	How Organisation of OH Services is Addressed in the National Legal Framework	Examples of OH Care and Management Provisions Required by Law
Japan	The organisation of OH is enshrined in the Japanese constitution within the Labour Standards Law.	All workplaces employing 50 or more workers must appoint an OP to deliver OH services. Usually larger companies deliver services with a wider team of professionals. Among smaller sized companies, a part-time OP must be recruited. The law specifies seven duties of OPs.
The Nether-lands	Provision of OH services is enshrined in the Working Conditions Act (1980; 1994) which outlines requirements surrounding OH services and multidisciplinary professional support.	Employers are required to provide OH services, whether in-house or externally contracted. OH services are delivered by a multidisciplinary team of OH professionals: OPs, safety officers, occupational hygienists and work and organisational professionals.
Poland	The organisation of OH services is governed by Act No. 593 on Occupational Health Services and the Occupational Medical Service Act, 1997.	OH provision is provided through a mixed system of delivery: *Work Safety and Hygiene Services are* provided by the employer under free market conditions, and the *Occupational Medicine Service* is provided by the Polish Ministry of Health.

Organising and Financing of Occupational Health Services

Organising OH Services

Infrastructures for the provision of OH services are, by and large, insufficiently developed in most parts of the world, including both developed and developing countries. However, if organised appropriately and effectively, such services can and do contribute significantly not only to workers' health, but also to the overall socio-economic development, productivity, environmental health, and wellbeing of countries, communities, and families (Jeyaratnam & Chia, 1994). Effective OH services can reduce avoidable sickness absenteeism and work disability, but also help to control the costs of health care and social security (OECD, 2010).

In accordance with national conditions and practice, OH services may be organised by the organisation itself or by a group of organisations, public authorities or official services, social security institutions, any other bodies authorised by the competent authority, or any combination of the above. All the reviewed countries used a variety of approaches and methods to organise and deliver OH services. In this section, an overview of the methods used at the national-level to organise and fund the delivery of OH services is provided and, more broadly, OH care and management is comparatively examined.

Organisational and financing models for OH services vary between and within countries, according to their: national traditions, legal and policy context, the organisation of occupational health and safety, the health system (Beveridge, Bismarck or private),[4] social security, and industrial and economic activity (WHO, 1990). As a rule, legislation often allows flexibility in the choice of structural models of OH services to meet local conditions and practices (Rantanen, Lehtinen & Mikheev, 1994). Consequently, considerable variation exists across national contexts in the utilised OH service models. More specifically, such national-level systems of OH service delivery are typically differentiated by: the legal requirements surrounding delivery of service and provision of OH care and management, what key stakeholders are involved in its organisation, how it is financed, how quality is monitored, and how it is delivered. As outlined previously, the ILO Convention on OH Services states that the financial responsibility for the provision of such services rests on the employer primarily, who should also be in charge of its organisation. In general, this is observed across all the reviewed countries, as discussed next.

[4] In the Beveridge 'public' model, funding is based mainly on taxation and is characterized by a centrally organised National Health Service where medical/health services are provided by mainly public health providers (hospitals, community doctors, etc.). The Bismarck 'mixed' model is funded mainly by a premium-financed social/mandatory insurance, and results in a mix of private and public providers. In the 'private' insurance model, funding of the system is based on premiums, paid into private insurance companies (Lameire, Joffe, & Wiedemann, 1999). Mixed healthcare systems combine provisions of the Beveridge, Bismarck and Private insurance models.

In general, the way OH services are organised and financed reflects the interests of the government and social partners in relation to the health and wellbeing of the working age population (WHO, 2002), but is also likely directly informed by the socio-historical context and current policy agenda of the country. During the 1980s, for example, particularly in industrialised countries, social and demographic developments (such as ageing of the working population, increase in disability pensions and sickness absenteeism, and difficulty in controlling social security budgets) led to many countries making significant reforms to national OH systems (e.g. the Netherlands). In many countries, these policy-level discussions surrounding such policy and system reforms are ongoing (e.g. the UK; Tu, Maguire, and Shanmugarasa, 2019).

Many of these policy reforms have focused on the prevention of both short-term and long-term disability, preservation of working capacity (particularly of older workers), and reducing early retirement (OECD, 2010). For example, in the Netherlands, major reforms were made to their social security programme and disability management policies nationally. This was, in part, driven by the increasing number of benefit claimants and growing strain on the social security programme. A key development in this period was the introduction of the Gatekeeper Law. This law shifted the emphasis from the state to employer-led OH care.

To meet the OH needs of companies (which vary widely with respect to type of industry, size, type of activity, structure and so on) a number of different models of OH services are commonly used in practice (Rantanen, Lehtinen & Mikheev, 1994; WHO 2002), for example: in-house models, externally contracted services and private health clinics, group (inter-enterprise) services, hospital and outpatient clinics, primary health care units, and social security programmes. Due to the interconnected nature of a country's delivery and financial model, they will be discussed and considered collectively within this section. In the 12 case studies reviewed, the way OH services are organised, delivered and financed varies considerably, with many countries using '*mixed OH service models*' (WHO, 1990; see Tables 4 and 5). More specifically, in many countries the OH service model is characterised by various channels of delivery and is, therefore, funded by various sources.

In-House or External (Private OH Provider) Service Models

In all 12 reviewed countries, the employer bears (either full or partial) financial responsibility for the provision of OH services, including countries where employers have a legal duty to provide such provision and services. Employers may directly fund such systems by either in-house or externally contracted OH services (examined in this section); or they may pay levies or contributions which go to support group services models (e.g. France; examined in the following section).

In-house OH service models are organised and funded by the employer. This model of delivery is commonly viewed across all reviewed countries, but may be more commonly used by larger companies with the internal human and financial resources to provide such services. For example, research from the UK suggests that smaller employers are much less likely to have in-house OH provisions or services compared to larger employers (Tu et al., 2019).

In some countries, employers of a certain size are required by law to provide an in-house service (WHO, 1990; e.g. Japan, and France).

- In Japan, employers (with more than 50 employees) directly fund OH services. More specifically, Japanese workplaces that employ more than 1000 employees must appoint a full-time in-house OP, and those with 50 to 999 employees, at minimum, a part-time in-house OP. There are no legal requirements for companies with less than 50 employees to offer or fund such services. However, the national government offers healthcare by OPs to every worker by establishing regional OH centres all over Japan.
- In France, OH services must be provided through either in-house ('autonomous') services or through group ('inter-organisation') services. These in-house services are typically used by larger companies. There are requirements, based on the size of the company, on which OH professional must support the delivery of this service. OH nurses are required to support the work of OPs in larger organisations.

In Finland and the Netherlands, employers have the option of choosing which model of OH service they would like to use. In both national contexts the provision of OH services is required by law. The selected OH service may or may not include the use of an in-house service.

- In Finland, the employer can acquire OH services from: municipal health centres; private medical centres; an OH service unit integrated into the organisation; or organisations can jointly organise their OH services. There has been, since the early 2000's, an increase in the number of private OH providers in Finland (Leino, 2009). However, many larger organisations continue to provide OH services in-house.
- Prior to 2005, Dutch employers were required by law to hire an external OH service if the company did not have an in-house OH service. Following 2005, OH support could be delivered by an externally contracted OH service or by hiring in only specific expertise (referred to nationally as 'customised support'). However, this is only after the employer has reached an agreement with the Work Council or if permission is made possible by a collective labour agreement with the relevant social partners.

The national-level view within these two countries is that providing employers with choice among their legally prescribed duties in this space will increase coverage nationally and enhance compliance.

In many countries where the organisation of OH services by employers is voluntary, in-house or externally-contracted (including private OH providers) OH services are a common feature (e.g. USA, UK, Canada and Australia). In-house and externally contracted services are particularly utilised by larger sized organisations (Tu et al., 2019), with smaller organisations and self-employed individuals having fewer resources to access and fund such services.

Many employers outsource their provision of OH care and management to **private OH providers** who operate externally to the company. The use of private OH providers is predominant in Australia, the Netherlands, Japan, the UK and the USA. However, in many of the countries reviewed, this service model often operates in conjunction with other OH service models. For example, there is a growing use of private medical centres in Finland, with an estimated 52% of OH provision delivered through private OH providers (Koskela & Sauni, 2011). In an alternative form of this

model in Germany, a private physician is hired by the organisation to provide OH services. The funding source for this model may come from employers themselves or via insurance contributions.

One of the key strengths of private OH provision is the flexibility it affords organisations. Furthermore, the free market nature that many of these providers operate in may make the provision of such services more affordable (therefore, potentially increasing access) to employers. However, there is a concern that the profit and market driven nature of this model may influence the orientation of activities (WHO, 1990). For example, where services focus on a limited number of activities (e.g. sickness absence management), rather than a wider spectrum of services ranging from prevention and management to curative and rehabilitative measures. There is also a concern that this model may cause variability in the quality of such provisions (WHO, 2002), as private OH providers (in certain national contexts) may not subscribe to quality assurance measures (e.g. voluntary accreditation or certification schemes)

Group Service Models

The **group or inter-enterprise model** refers to the sharing of OH services by groups of employers (usually, SMEs), who jointly organise services of a certain size and quality (WHO, 1990). Employers financially contribute to such systems through membership fees or tax contributions. Some countries (e.g. France and Finland) make legal provisions for the establishment of such group service centres by organisations that are not large enough to organise their own services independently.

These centres are typically administrated by an independent body, which usually includes representatives of both the employer and employee. The participating group of organisations fund the group OH service. In some cases, the group of organisations are all owners or shareholders in the OH service, which usually operates on a non-profit basis (e.g. France, Finland).

In France, for example, one method of delivering OH services is through OH ‘group service enterprises’ (or inter-company services, generally for SMEs), which are non-profit organisations functioning as associations with the objective of offering OH advice, support, and surveillance to workers. This group service model is funded by participating organisations through contributions. More specifically, companies pay a yearly contribution per employee, representing a fixed sum for all service provision (Bigaignon-Cantineau, 2009).

Group services may serve several different organisations in a geographic region, or several organisations within the same type of economic activity (typically called the industry-oriented or branch-specific model) who may use specialist OH providers. Construction, food, agriculture, banking and insurance are examples of sectors that have made such arrangements (WHO, 2002). The use of a branch-specific model is found in the Netherlands and France.

The advantage of this model is the opportunity for OH service providers to concentrate on an industry/ sector and accumulate special competence in addressing its problems (Rantanen & Fedotov, 2011). Another key advantage of this model is that it may provide smaller organisations and self-employed workers greater opportunities to access OH services. For example, the high level of worker coverage in Finland has

been made possible by organising municipal health centres that provide OH services for workers in small-scale organisations, the self-employed, and those working on small worksites operated by large multi-site companies.

Arguably, this model does not enjoy all the advantages of the in-house model, owing to the lack of daily contact with the workplace and its tailored prevention and management measures and actions. For example, an occupational physician or other OH professionals employed within this group service may be missing important contextual information of the employees' work environment in which to tailor and individualise their treatment plan. The advantages of this model, however, are its mobility, flexibility, and opportunities to accumulate knowledge on the special OH problems of the region, trade, or branch of industry it serves. Furthermore, this model enables organisations that are individually too small to have their own services to enjoy the advantages of a well-staffed, well-equipped comprehensive service (WHO, 1990).

Community-based Health Centres and the Healthcare System

In a small number of countries, OH services or provisions are organised and funded by the government through **community or regionally based health clinics or centres** That is, OH services are offered by municipal, regional, or other public health service units which provide local-level primary health care. As stated previously, this is a common model in Finland, but it is also the case in Italy, the Republic of Ireland, Poland and Japan.

- In Italy, regional health units provide OH services. These services are co-ordinated at the regional level by committees, and nationally by the Ministry of Health. They are funded through the state.
- In the Republic of Ireland, OH services are embedded within Community Health Organisations and Hospital Groups. Workers can gain access to such services (e.g. fitness for work assessments and advice on workplace adjustments, preventing ill health and promoting health and wellbeing) through management or via self-referral. Each service, typically, is staffed by a physician, a nurse and an OH administrator, and is funded through public funds.
- In Poland, OH services are provided through a mixed system of delivery. Work Safety and Hygiene Services are provided and funded exclusively by the employer, and Occupational Medicine Services are provided by the Ministry of Health and funded by public resources (including regional authorities and additional public resources provided at the discretion of Ministries of Health or Labour and Social Affairs). Occupational Medicine Services are public healthcare institutions, established and funded by a regional self-government (Jankauskas et al., 2012).
- In Finland, municipal health centres provide OH services for companies and entrepreneurs located in the municipality. However, the employer may independently arrange their own OH services or do so together with other employers (usually in the form of an association). In Finland, some employers may also choose to provide OH services through OH care centres, which are jointly operated and funded by several employers.

- In Japan, to support small workplaces to access OH services the government has established Regional Occupational Health Centres (ROHCs) and a number of Occupational Health Promotion Centres (OHPCs). The ROHCs were established and are funded by the government. Their management is entrusted to regional medical associations. ROHCs provide health guidance for employers or employees, workplace visits to give advice on the improvement of the work environment and work procedures, and information on OH services. The OHPCs were established by the Labour Welfare Corporation, which is closely affiliated to the Ministry of Health and is responsible for supporting the OHPCs financially.

This model has both advantages and disadvantages. On the one hand, where there exists a network of local health centres that cover a whole country, this may increase the accessibility and access of such services to a wider range of workers (including the self-employed, agriculture workers and those working in the informal sector; WHO, 1990). Indeed, this is the model strongly recommended by the WHO as a means of providing services to small-scale enterprises and, particularly, to agricultural enterprises, the informal sector and the self-employed (Rantanen & Fedotov, 2011). A further advantage is that services integrate automatically with primary health care as they co-exist and function within the same national healthcare system (WHO, 1990), and services are also conveniently located in the communities where people work and live (Rantanen & Fedotov, 2011).

However, this organisation model may suffer from a notable drawback. Local or regional health centres may have difficulty handling the wide variety of health and wellbeing challenges experienced by whole communities that are likely engaged in diverse sets of occupations and vocational activities, embedded in a variety of sectors. The quality and scope of these services is highly dependent on the size of the staff providing them (WHO, 1990). Furthermore, the quality of services will depend, in part, on the training of the OH professional delivering the services, and on national-level quality assurance procedures and policies. Since General Physicians and nurses usually lack specialisation and experience in OH, the success of this model critically depends on how much training in OH and occupational medicine can be arranged for the health professionals serving such services.

Hospital outpatient clinics and emergency rooms have also traditionally provided services to ill or injured workers. However, this is primarily to gain access to primary forms of medical treatment, not to an OH service per se. In those countries with publicly funded healthcare systems (e.g. Canada, and Australia) this provision is an important aspect of supporting workers' health and wellbeing. However, secondary forms of medical care are not typically provided through these national systems. In both contexts, GPs play a central role the delivery of care and support. For example, in both of these countries GPs are central in medically certifying workers during periods of illness and may also be involved in providing support and recommendations to workers on their return to work, or to those remaining at work. This characteristic also defines the USA, but as their healthcare system is primarily a privately funded system, not all workers may have equal access to such services or provisions. GPs have an important role in the U.K. context as well, but their involvement is limited to sickness absence management as they have no knowledge of the individuals' workplace.

A key challenge of this model is that communication between the employer and the insurance company (where relevant) is typically via a medical certificate (e.g. a sick note or 'fit note'), which is issued by the treating doctor. The content of the certificate encourages the doctor to outline what duties the worker should be restricted from performing. A limitation of such a system is that treating doctors do not have a global view of working conditions, only those discussed or highlighted by the injured or ill worker (Rantanen & Fedotov, 2011). Consequently, such limited knowledge may have an impact on the effectiveness or suitability of the illness management plan (Thompson, 2011).

Workers' Compensation and Specialist Insurance Institutions

Workers' Compensation Boards/ Authorities are state-run authorities and, in certain national contexts, an important stakeholder in the provision of discrete OH services (e.g. Australia, Canada and the USA). Their funding is primarily garnered by the government through employer levies. In the USA, Australia and Canada the workers' compensation system is an important characteristic of the national-level system of OH care. These authorities provide compensation for sick or ill workers (who meet eligibility criteria), but many also provide curative and rehabilitative services to workers and access to experts/ expertise for employers.

More specifically in Canada, Australia and the USA, workers' compensation authorities play a key role in the delivery of basic OH services. The organisation and funding structure of each of these authorities is determined at the state, province, or territory-level, rather than federally. Consequently, the funding of workers' compensation programmes is complex, and varies across each national context.

Some examples include:

- In the USA, workers' compensation programs are financed almost exclusively by employers. Depending on state laws, employers can purchase insurance from a private carrier or state fund, or they can self-insure. A self-insured workers' compensation plan is one in which the employer assumes the financial risk for providing workers' compensation benefits to its employees. In practical terms, self-insured employers pay the cost of each claim 'out of pocket' as they are incurred instead of paying a fixed premium to an insurance carrier or to a state-sponsored workers' compensation fund.
- In Australia, workers' compensation is a compulsory statutory form of insurance for all employers in every state and territory. Each state government regulates the workers' compensation scheme in that state. The various schemes are administered in different ways and insurers may have different roles within the schemes.
- In Italy, the National Institute for Insurance against Accidents at Work (INAIL) plays a key role in the delivery of OH services nationally by providing medical treatment for ill or injured workers. They are also responsible for the reintegration of ill, disabled or injured workers at work. INAIL is funded by contributions from employers.

In Germany and Italy, the model of delivery is also characterised by the contribution of specialist insurance agencies that provide a variety of OH services for both employers and workers to access. In Germany and Italy **specialist insurance institutions**, which are either state run or funded through employer contributions, may also provide OH services. These institutions are typically funded by employer contributions. For example:

- In Germany, self-governed statutory accident insurance institutions (funded solely by employers' contributions) provide a comprehensive prevention, rehabilitation, and compensation service. All employees are compulsorily insured against occupational accidents and diseases.

State Provision

State provision of OH encompasses state or federal-run programmes that provide income or access to certain services to ill, disabled, or injured workers. In some of the countries reviewed (e.g. Australia, the Republic of Ireland, the UK and the USA), OH services and support for workers with a disability and long-term health conditions are also provided by special units or programmes organised, operated and typically funded by a social security programme. These programmes are funded by the state. The emphasis on controlling the costs of this state provision often leads to priority being given to preventive services (Rantanen & Fedotov, 2011).

Some examples include:

- In the USA, the Ticket to Work and Self Sufficiency (Ticket) programme is a federally-funded employment programme that is designed to provide Social Security disability beneficiaries (i.e. individuals receiving Social Security Disability Insurance and/or Supplemental Security Income benefits based on disability) the choices, opportunities and support they need to enter the workforce and maintain employment with the goal of becoming economically self-supporting over time.
- In the Republic of Ireland, 'Intreo' is a government-led service offering practical, tailored employment services for employers and jobseekers alike. This service is a key national-level support for employers aiming to employ and retain people with disabilities.
- In the UK, the Fit for Work service (Government-funded initiative) was designed to support people in work with health conditions and, in turn, help with sickness absence. The Service launched in 2014 and ended in May 2018. It provided OH advice and support for employees, employers and GPs to support individuals with a health condition to remain or return to work in a phased, supportive capacity. The website is still accessible.

Across many of the reviewed countries, the provision of sick pay, typically supported by a wider set of social security measures, is an important financial support for many ill and injured workers. This provision is discussed further in the section examining employer-led OH care.

Financing OH Services

According to the ILO instruments, the primary responsibility for financing OH rests with the employer. As previously stated, OH services can be financed by the government, organisations, insurance systems, social security funds, or a combination of these. Table 4 provides a short summary of key funders of OH services within each reviewed country.

Typically, the stakeholders involved in financing OH services at the national-level will relate to the utilised OH service model (Rantanen, 2007). Usually some governmental control and economic incentives are used to direct the extent and content of services (WHO, 2002). In most of the countries, and as observed across many of the reviewed case studies, the funding of OH services is typically arranged by employers and driven by the market. This is particularly true in countries where OH service provision is voluntary in nature. However, this market-driven approach also applies to countries where employers are legally required to provide OH services, for example Finland and the Netherlands.

For many employers, the provision of OH services is viewed as a financial burden, which is likely to be particularly true for SMEs and self-employed workers. However, there is evidence highlighting the positive economic impact of well-organised OH services. Economic cost-benefit analyses have shown that OH services investment typically yields a return on investment by improved productivity and profitability (Kankaanpää, Suhonen & Valtonen, 2008). The best results have been achieved in companies that have integrated OH in their management and production, and where OH services have an active role in prevention and rehabilitation (WHO, n.d). In some national contexts, the use of financial incentives to encourage employer-led OH care and organisation of OH services have been used (e.g. Finland).

In some countries, however, there are modifications of these principles. For example, costs for the provision of OH services may be substantially subsidised by the social security institution. For example, in Finland, employers may receive reimbursement (up to 50%) of a portion of the costs associated with the delivery of OH services by the social insurance institution. Reimbursement is, however, contingent on providing evidence of compliance with OH regulations, and the occupational safety and health committee of the organisation confirming that the OH services have been properly provided. In France, the delivery of group OH services comes from regional social security funds, funded in the first instance by employers' levies. The bottom line appears to be that, in many OH service models, the funding of such provisions is primarily derived from the profits and production of industry and services. This applies equally in the public and private sectors. In these countries, citizens/taxpayers are apparently not major stakeholders where the funding of OH services is concerned (Westerholm, 2007).

In most countries, such national systems of reimbursement are available. In the community health centre model for the delivery of OH services, the start-up costs for facilities, equipment and personnel are met by the community, but operating costs are met by collecting fees from employers and from the self-employed. The reimbursement or subsidy systems are intended to encourage the availability of services to organisations with economic constraints, and particularly to small-scale organisations which rarely can command adequate resources to deliver OH services (in-house or contracted). The effectiveness of such a system is shown by the experience in Sweden (not a reviewed country, but an interesting case study) in

the 1980s, in which the allocation of substantial amounts of government financing to subsidise OH services for organisations in general and particularly for small-scale enterprises increased the proportion of covered workers from 60% to over 80%.

Across a number of reviewed countries (see Table 4 for summary), there exist a variety of financial incentives (e.g. UK) or national systems of reimbursement (e.g. Finland) or tax-relief schemes to support and encourage employer-led OH care and management. Such reimbursement or subsidy systems have been highlighted as a potentially useful lever to encourage the delivery of OH services in organisations with economic constraints, and particularly in small-scale businesses (Rantanen & Fedotov, 2011).

Some examples include:

- In Finland, the Finnish Social Security Institution will reimburse some of employers' costs associated with OH care and management: 60% of necessary reasonable expenses of preventive services, and 50% for curative services. However, employers must provide evidence of legal compliance and the organisation-level health and safety committee must confirm that services have been provided properly to receive reimbursement.
- The Republic of Ireland provides private sector employers with the opportunity to apply for a grant that offers financial support to provide workplace adjustments for ill or injured employees.
- In the UK, employers may receive tax relief for medical treatments (up to £500) they fund to support the return to work of an ill or injured employee or for employee support through the Access to Work Scheme (HMRC, 2014).

Such reviewed schemes aim to encourage employers to ensure they meet their legal duty to provide OH services (e.g. Finland), or to encourage targeted action in a concentrated set of areas, such as supporting return to work and workforce retention. See the employer led OH care section for a comparative review of incentive schemes targeting employers to engage in OH care, management, and support (e.g. early or phased return to work following injury).

Conclusion

- Employers play a key role in both organising and financing OH services.
- All reviewed case studies highlight that there are a range of different models through which OH services may be organised and, in turn, funded, and that many countries use a combination of these models.
- Most countries have a variety of funded programmes/ approaches to support OH service delivery, likely a direct result of the fact that the service model for each country is multi-faceted.
- In many of the reviewed case studies, the state is an important stakeholder in financing OH services, through either the special agencies in OH, the social security agency, or through the healthcare sector. Costs for the provision of OH services may also be provided directly by, or substantially subsidised by, the healthcare system, for instance in Poland and Italy.

- Workers' compensation authorities provide ill or disabled workers with compensation and access to services. These state-governed authorities are typically, but not always, funded through employer levies or compulsory insurance payments.
- Many countries offer programmes through their social security programmes to support workers who are ill, sick or disabled. These programmes are funded by the state.
- There exist some good practice examples of programmes or services to support employer-led care. A more detailed discussion can be found in the section: Employer-led OH Care and Management.

Table 4. Funding for OH services in reviewed case studies

	UK	Finland	Poland	Germany	Netherlands	Republic of Ireland	Italy	France	USA	Australia	Japan	Canada
Employers	X	X	X	X	X	X	X	X	X	X	X	X
State budget (government special agencies in OH and in the health sector)	X	X	X			X	X		X	X		X
Provincial and local municipal authorities			X				X	X				
Social security institutions									X	X	X	
Workers' compensation and specialist insurance agencies				X			X		X	X		X

Table 5. Summary of the OH services model across the reviewed case studies

Country	National OH Service Context	Predominant OH Service Models	Key Funders
Australia	Voluntary, outsourced, and market-driven. Operating within an Anglo-Saxon welfare model and mixed healthcare system.	In-house model, private OH provider, social security model, hospitals and clinics	Employers, state and Social Security Programme
Canada	Voluntary, outsourced, and market-driven. Operating within an Anglo-Saxon welfare model and mixed healthcare system.	In-house model, private OH provider, social security model, hospitals and clinics	Employers and the state
Finland	Specified by law and mixed (state provision, and some market-driven provision). Operating within a Scandinavian welfare state model and Beveridge healthcare system.	Primary health care units, private OH provider, in-house model, group model	Employers, regional authorities, Social Security Programme
France	Specified by law and mixed (state provision, and some market-driven provision). Operating within a Bismarck welfare and healthcare system.	In-house model, group model	Employers, regional authorities (funded by employer contributions)
Germany	Specified by law and market driven. Operating within a Bismarck welfare and healthcare system.	Social security model, in-house model, group model	Employers
Republic of Ireland	Voluntary, outsourced, and market-driven. Operating within an Anglo-Saxon welfare state model and mixed healthcare system which provides several OH services.	Primary health care units, in-house model, community-based health centres, social security	Employers and the state

Country	National OH Service Context	Predominant OH Service Models	Key Funders
Italy	Specified by law and integrated with primary healthcare. Operating within a Southern-European welfare state model and mixed healthcare system.	Primary health care units, and specialist insurance agency	Employer and regional authorities
Japan	Specified by law and mixed (state provision, and some market-driven provision). Operating within a Bismarck welfare and healthcare system.	In-house model, private OH provider, community-based health centres	Employers and the state
Netherlands	Specified by law and market-driven. Operating within a Bismarck welfare and healthcare system.	In-house model and private OH provider	Employers
Poland	Specified by law and mixed (state provision, and some market-driven provision). Operating within a Bismarck welfare and healthcare system.	In-house model and primary health care units	Employers and the state
UK	Voluntary, outsourced, and market-driven. Operating within an Anglo-Saxon welfare state model and Beveridge healthcare system.	In-house model, private OH provider, within-hospital services for hospital staff (with hospital services also sold-out to employers)	Employers, state, and Social Security Programme
USA	Voluntary, outsourced, and market-driven. Operating within an Anglo-Saxon welfare model and mixed (predominantly private insurance model based) healthcare system.	In-house, private OH provider, in-house model, social security	Employers, state, and Social Security Programme

For definitions of welfare regimes and healthcare systems (e.g. Anglo-Saxon welfare model) see Annex B

Level of Coverage of OH Services

The focus of this section is to review the available estimates in the reviewed countries about the level of coverage of OH services. There is no agreed definition of 'coverage' in the area of OH, partly due to variation between countries in the provision of OH services, ranging from: (i) no legal requirement, (ii) requirements for employers to manage and control occupational health risks implying appropriate use of external consulting services, through to (iii) a requirement for every employer to provide occupational health services (WHO, 2002). However, for the purpose of this report, coverage is defined as a measure of the extent to which services cover the potential need for these services in a given community. Therefore, coverage can be expressed as a function of how many workers have access to OH services amongst the given target population (typically the national working population; Rantanen et al., 2013, 2017).

While such a definition is useful conceptually, robust estimates of this nature are a rarity in practice. Furthermore, such figures must be understood within their national context, with an acknowledgement of what such estimates do and do not account for, such as: range of services, quality of provisions, definition of occupational diseases, and so on. In Europe, for example, approximately half of the working population remains uncovered by OH services, however, reliable assessments of the scale of coverage to such services is particularly challenging due to the lack of national-level measurements and information needed to derive informed population-level estimates (Westerholm, 2007). It is beyond the scope of this report to provide a critical appraisal and contextualised understanding of the identified estimates.

The estimated coverage of OH services varied considerably across the reviewed case studies: from approximately 40% (e.g. Republic of Ireland) to almost 90% (e.g. Finland) of workers. Table 6 provides an overview of estimates of OH coverage across the reviewed case studies, with some identified characteristics thought to affect the level of access to OH services. It is important to note that this list of characteristics is not exhaustive but details a summary of those identified through the case study review process. One of the key principles of the ILO Convention on OH services highlights the importance of developing progressively comprehensive coverage of OH services for all employees, in all branches of economic activity and all undertakings. In general, OH services are unevenly distributed internationally (Rantanen et al., 2013, 2017).

Those countries where OH services are legally specified were observed to have higher estimated levels of coverage, such as: Finland, France, Japan, the Netherlands, and Italy. Both Germany and Poland are thought to also have high levels of coverage within their working population (Froneberg & Timm, 2012; Rantanen & Kim, 2012). However, there are likely a wider set of factors that affect the level of coverage within and across these countries.

More specifically, within many countries there are segments of the working population that may not have access to OH services, including: some sectors of industry, agriculture, the self-employed, small-scale employers, and the informal workforce (Fedotov, Saux & Rantanen, 2011). Even among countries where coverage rates are estimated to be high there continue to be observed gaps in coverage across the working population. Access to OH services among employees in small and medium-sized organisations is typically very low across most countries (Moriguchi et al., 2010). Such trends have been observed within the wider literature examining provisions in OH services (Fedotov, Saux & Rantanen, 2011). Consequently, increasing coverage in such discrete groups should be viewed a key priority area of action in relation to the provision of OH services and care.

- For example, Finland is touted as having near comprehensive coverage of OH service. However, disparity in level of coverage continues to exist. An estimated 90% of salaried employees are covered by OH services. However, among entrepreneurs in agriculture (63%) and other self-employed persons (37%) the level of coverage is comparatively lower. This is likely since OH services are voluntary to such groups. The coverage of micro-sized companies (< 10 persons) was estimated to be 55% (Finnish Institute of Occupational Health, no date).
- In Japan, small organisations comprise 97% of all workplaces and 60% of the employed workforce. Therefore, while OH coverage is 100% in large organisations, it is less as the size of the company decreases (Muto, 2007). OH service provision in smaller sized enterprises is, therefore, a key priority nationally.

Rantanen and colleagues (1994) examined what the barriers might be for smaller organisation to offer OH services. The following factors were identified as key challenges:

- poor economic status of the organisation;
- low-risk activity in which the need of services is not recognised;
- poor understanding of basic objectives, working methods and benefits of OH services;
- short lifespan of high number of small-scaled organisations;
- low level of organisation of both workers and employers in the small-scale sector; and
- special problems of the labour market in construction, transportation and agriculture.

There are numerous models for the provision of OH services, and the use of certain models may exclude these specific groups, (such as SMEs, farmers, the self-employed or informal workers) either for structural (scattered distribution) or economic (affordability) reasons. Rantanen (2007) argues that, for these groups, the widest coverage of services may be best achieved through the use of the primary health services unit model. In countries where primary health units offer basic OH services (e.g. Finland) for SMEs and the self-employed, they appear to cover a substantial proportion of the total OH service provision in the country (Rantanen, 2007).

In many countries, the healthcare system is central to the delivery of OH care and management services (e.g. Canada, Australia, and the USA). Therefore, variations in eligibility criteria to access health care services within each given national context may impact coverage of OH services across workers within that country.

- In the Republic of Ireland, residents are assigned medical cards to gain access to the publicly funded healthcare systems. However, level of access and eligibility vary based on their length of residency. Therefore, access to the basic OH services through the healthcare system may vary because of this.
- Medicare is Australia's universal healthcare system, which subsidises many medical costs. However, there appears to be an ever-increasing gap in the coverage and services offered. All Australian citizens and permanent residents are covered under this scheme.
- The US healthcare system is not a universally accessible system. It is a publicly and privately funded patchwork of fragmented systems and programs. Insured individuals are covered by both public and private health insurance, with the majority covered by private insurance plans offered through their employers. Government-funded programs (e.g. Medicaid and Medicare) provide health care coverage to some vulnerable groups (disabled, elderly, pregnant women etc.)

In many national contexts, having private insurance (whether self-funded or given as employment benefit) is an important mechanism to access OH services (e.g. Canada, Australia and the USA). However, the level of coverage of individuals with private insurance varies by sector, size of organisation, and employment contract; which likely influences overall coverage rates. For example, an estimated 75 to 66% of Canadians have private insurance which covers services excluded from public reimbursement (e.g. vision and dental care, prescription drugs, vocational and some rehabilitation services, home care, and private rooms in hospitals). In 2014, approximately 94% of premiums for private health plans were paid through employers, unions, or other organisations under a group contract or uninsured contract (by which a plan sponsor provides benefits to a group outside of an insurance contract). However, a decreasing trend has been observed in individuals purchasing self-funded insurance in recent years.

Those countries that use social security institutions in the provision of OH services will have provided universal coverage to all contracted employees. Such provisions will not extend to the self-employed or contracted workers. However, among those that are insured under worker compensation schemes, the health conditions covered (eligible for compensation) vary by jurisdiction. Consequently, not all employees will be covered (will receive compensation for treatment) as it may be dependent on their health condition. This may be particularly true for health conditions that are not visible (e.g. mental health conditions and stress). Two interesting examples can be observed from Canada. In the province of Manitoba if a worker is exposed to certain types of traumatic events and is diagnosed with post-traumatic stress disorder, they are eligible for compensation as of 2016. Prior to this they would not have been. However, mental health conditions that occur because of burn-out or the daily pressures or stressors of work are not eligible for a compensable claim. In the province of Alberta, a claim for psychiatric or mental ill-health conditions may be compensated for if it meets the diagnostic criteria as outlined in the Diagnostic and Statistical Manual of Mental Disorders. The condition must also have resulted

from one of the following: brain damage, emotional reaction to work-related physical injury, an emotional reaction to a work-related treatment process, traumatic onset of psychological pressure or stress, chronic onset of psychological pressure or stress.

Conclusions

- Across many of the case studies (even those with high estimates of coverage) their remains sections of the working population that do not have equal access to OH services and provision (e.g. self-employed, smaller sized enterprises, and the agricultural sector).
- The countries with higher estimated levels of coverage typically tend to be those that have legally prescribed the provision of OH services or aspects of OH management and care. However, the model of OH service provision also has a direct impact on the level of coverage, for example where OH services are embedded in primary care.
- A certain degree of caution should be exercised when seeking to compare such estimates, as they should be understood within their national context and method of calculation.

Table 6. National-level estimates of coverage of OH services and characteristics that might affect coverage.

	Estimated Coverage	Example Characteristics That May Affect Coverage or Access
Australia	An estimated 50% of workers have access to some form of OH service (Safe Work Australia, 2017).	• Type B legal framework (see Legal and Policy section for discussion). • Dependent on the level of working population with private health insurance. • Access to OH provisions through workers' compensation boards varies by jurisdiction. • Remote communities might have less access to provisions due to challenges of recruiting OH staff.
Canada	An estimated 48% of Canadians have access to workplace OH services. Private health insurance, which supports provision of some basic OH services, is held for an estimated 66% of Canadians (Royal Bank of Canada Insurance Survey, 2018).	• Type B legal framework. • Dependent on the level of working population with private health insurance. • Access to OH provisions through workers' compensation boards varies by jurisdiction. • Remote communities (e.g. northern communities) might have less access to provisions due to challenges of recruiting OH staff.
Finland	The coverage of OH is now about 90% of all Finnish employees (Finnish Institute of Occupational Health, no date).	• Type A legal framework. • Remote communities (e.g. Lapland) may have limited provisions and access to professionals. • Self-employed, micros-sized companies, agriculture and informal sector all have lesser coverage.

	Estimated Coverage	Example Characteristics That May Affect Coverage or Access
France	More than 90% of workforce have access to OH services. OH services compulsory for all private and public sector organisations with one or more employee, but excludes those self-employed (Bigaignon-Cantineau, 2009).	• Type A legal framework. • More remote areas or regions are not as well serviced or provisioned for OH services.
Germany	While an exact estimate of coverage could not be identified, it is suggested to be relatively high, resulting in near comprehensive coverage (Froneberg & Timm, 2012). This is likely because, since 2004, all German organisations have been covered by OH services, contracted and financed by the employer.	• Type A legal framework. • All workers are insured and have access to OH services, largely provided by accident insurance institutions, which cover medical and occupational rehabilitation and provide compensation to those suffering from occupational diseases or injuries. • Smaller organisations may receive less comprehensive OH services.
Republic of Ireland	An estimated 30-40% of Irish workers are thought to have access to OH services (European Union Trade Institute, 2014).	• Type B legal framework. • Smaller-sized organisations, self-employed, agriculture and informal sector may all have lesser coverage.

	Estimated Coverage	Example Characteristics That May Affect Coverage or Access
Italy	Over 75% of the Italian workforce is covered by OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017). This is, in part, due to the integration of OH services with primary health care through the regional health authorities.	• Type A legal framework. • Provision of OH service units by regional health authorities is uneven across the country. • Workers on fixed term contracts, self-employed and informal workers may have limited or no access to OH services.
Japan	An estimated 85% of Japanese workers have access to OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017).	• Type B legal framework. • Company size determines the scope of coverage, to be provided by the employer. • Small organisations offer limited OH services but are supported by Regional Occupational Health Centres and Occupational Health Promotion Centres. They were established by the Government to provide OH services to small workplaces with fewer than 50 employees.
Netherlands	An estimated 80% of Dutch workers have access to OH services (European Trade Union Institute, 2014)	• Type A legal framework. • Typically, low coverage for self-employed and agriculture workers.
Poland	All active workers have access to OH services, resulting in near comprehensive coverage (Rantanen & Kim, 2012).	• Type A legal framework. • Employers are required to provide services in-house or through an externally contracted service. The State organises primary and regional OH centres that provide OH services to the community. • Remote communities might have less access to provisions due to challenges of recruiting OH staff.

	Estimated Coverage	Example Characteristics That May Affect Coverage or Access
UK	An estimated 51% of British employees have access to OH services (DWP 2015).	• Type B legal framework. • Smaller-sized organisations, self-employed, agriculture and informal sector (the gig economy) have lesser access to OH services. • Remote communities (e.g. in the Highlands and Islands, Scotland) may have limited provisions and access to professionals.
USA	An estimated 35% of the US workforce is covered by OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017).	• Type A legal framework. • Smaller-sized organisations, self-employed, agriculture and informal sector may all have lesser coverage. • Dependent on the level of working population with private health insurance.

Minimum Standards in OH Services

OH services typically provide both medical (e.g. health screening) and non-medical (e.g. workplace adaptation) activities, which are directed towards the protection of employees' health (WHO, 2002). The minimum requirements for OH services are declared by the legal context of the given countries. As previously stated, the understanding of the role of OH services, their structure and functions, varies across countries, and is directly influenced by the legal, financial and organisational issues that influence employee health (WHO, 2002; WHO, 1990). Consequently, there exist a variety of different approaches used to achieve minimum standards of quality and care in OH services (see Table 7). More specifically, the different methods of Quality Assurance[5] measures used in OH services reflect different models, terminology and scope of such services across different countries.

Supervision and Enforcement

The most common methods are based on supervision or enforcement principles (France, German, Netherlands, Poland, Finland, Italy; see Table 7 for a summary), which are typically conducted or overseen by the labour inspection and/or sanitary inspection.

- For example, in France, the Labour Inspectorate is charged with monitoring and enforcing the statutory rules. The Labour Inspectorate staffs a team of physicians (typically qualified OPs), who are in constant contact with OH services and represent an important link between OH services, the delivering OPs there within, and the government. These labour inspectors are often termed medical inspectors. Beyond their inspection role, the medical inspectors play a key role in: (i) the certification of OH services; (ii) monitoring trends in occupational health management and occupational health and safety by analysing the individual annual reports of OPs (although this is not often done in a systematic way); (iii) and encouraging regional meetings and training. There are, however, too few medical inspectors nationally to comprehensively execute such roles and responsibilities (see comparative country review by The Social and Economic Council of the Netherlands, 2012).
- In Germany, the implementation of and control of compliance with national regulations are under the individual responsibility of the 16 Länder (states) through their labour inspection authorities and the inspection services of the accident insurance institutions. The education and training of specialists in occupational medicine is regulated by the Federal Chamber of Physicians and by professional guidelines issued by each Länder (federal state) for professionals working within the region (Froneberg & Timm, 2012).

[5] Quality assurance is a general term for activities and systems for monitoring and improving quality. It involves measuring and evaluating quality, but also involves other activities to prevent poor quality to ensure high quality.

- In Japan, OH is administered directly by the Industrial Safety and Health Governmental Department. There are around 47 functional inspection units at the local level and 347 distributed nationwide. They are staffed by a total of about 3,200 “Labour Standards Inspectors”, 390 “Industrial Safety Expert Officers” and 300 “Industrial Health Expert Officers” (Takhashi, 2011).

The quality and competence of OH professionals that deliver OH services also play a key role in the quality of care and services provided. In some of the reviewed countries, it is interesting to note that there are regulations on professional practice of OH professionals. Some examples, include:

- In Poland, the detailed scope of OSH professionals’ work, organisation and competences is regulated by the Ordinance of the Council of Ministers of 2 September 1997 on occupational safety and health.
- In Finland, the training of OH and safety professionals and experts is regulated by a Government Decree (708/2013).
- In France, the Decree 2012-135 of 30 January 2012 on the organisation of occupational medicine outlines regulations on professional practice for OPs.
- In Germany, the Act on Occupational Physicians, Safety Engineers and other OSH Professionals is the legal basis for occupational physicians and OSH professionals.

Voluntary Quality Standards

There are a growing number of voluntary methods (such as standards, guidelines, accreditation, and certification schemes) that are used to maintain the quality of OH services. As seen with the France example, voluntary methods are often used in collaboration with a supervision or enforcement approach. Voluntary methods are also used to supplement regulatory approaches, for instance in Germany, the professional association of company physicians established the Association for Quality Assurance in Occupational Health Care and supports voluntary quality audits of OH service provision (Jankauskas et al., 2012). There are standard systems of quality assurance specific to OH services, which have been developed and applied completely on a voluntary basis (e.g. UK and Ireland). Voluntary approaches are believed to be more effective (Kopias & Wdowik, 2005). However, their effectiveness has not been proven.

Standards and Guidelines

Standards and guidelines[6] for OH professionals and the practices of OH services were identified across the reviewed case studies. Some of these approaches focused on the development of standards, codes of practice, and development of guidelines to support discrete OH professionals, for example Occupational Physicians (e.g. UK and Netherlands) and to promote good OH practice (e.g. the Republic of Ireland and Finland).

[6] Standards outlines the acceptable level of quality or attainment in a given area or set of tasks. It outlines what is required in relation to a set of tasks (what is required?) and assigns quantifiable measures. Guidelines typically provide recommended guidance on how to act or deliver a set of services (how do I do it)?

- In the Republic of Ireland in 2017, the "Safer Better Care: Standards for Occupational Health Services" (focusing on five key areas: worker-centred care and support; safe, effective care and support; workforce planning and resource management; leadership, governance and management; and use of information) were published by the Irish Health Service Executive. Their purpose is to help the healthcare worker, managers and all those who use Occupational Health Services and the people who provide them understand what a high quality, safe Occupational Health Services look like. The standards aim to promote consistency of service delivery and allow quality assessment teams to assess service delivery across four levels of quality for each essential element (Irish Health Service Executive, 2017).
- In the Netherlands, professional practice and quality is supported by published codes of practice by De Nederlandse Vereniging voor Arbeids- en Bedrijfsgeneeskunde (NVAB) Centre of Excellence. Such guidelines are based on scientific evidence, peer-group consensus, underpinned by professional and ethical practices, and directly informed by best practice (NVAB, 2018). Many have undergone systematic evaluation (Hulshof & Hoenen, 2007; van der Weide et al., 1999; Van der Klink et al., 2003; Rebergen et al., 2009; de Boer et al., 2008).
- In 2017, the Faculty of Occupational Medicine in the UK published a specialist training curriculum for Occupational Medicine and a competency framework for those working in this field.
- In Finland, good practice guidelines for OH services were published by the Finnish Ministry of Health and Social Affairs and the Finnish Institute of Occupational Health ("Guidelines for Good Occupational Health Practice (Taskinen, 1997). These guidelines seek to support quality OH organisation and delivery, while ensuring strong alignment to national priority areas. More specifically, the Finnish guide describes the guidelines for OH practice and outlines the key practice requirements and guiding principles for the organisation and delivery of such services.

Many of these guidelines were developed and issued by key professional associations in that country (such as, the Faculty of Occupational Medicine or the Royal College of Physicians in the UK). This professional good practice guidance is viewed by many as key to supporting the quality of care provided by OH professionals.

Accreditation and Certification

Accreditation or certification is commonly regarded as a useful tool in supporting the quality assurance of OH services (Kopias & Wdowik, 2005). The Netherlands has the longest experience in OH service accreditation; from 1994 to 1998, the Dutch government was carrying out the certification and recognition of OH services. Since 1998, the certification has been carried out by a private institution. In the Netherlands, the supervision of the quality of OH (and safety) care is twofold: the labour inspectorate, and the Dutch Ministry of Social Affairs and employment. The former checks to ensure employers are legally compliant, for example, having a risk assessment report to hand that is approved by the OH service. In principle, non-compliance can be sanctioned (fine imposed), but in practice this seldom happens. For the latter, each OH service unit should be recognised by the Dutch Ministry of Social Affairs and Employment, which occurs if the private certifying institution has

assessed the OH service as meeting a large number of requirements as outlined in the "Guidelines for the Certification of OH services". These guidelines consist of 50 conditions and approximately 20 verification points (Marcelissen & Weel, 2012). The certification process includes evaluating the quality manuals developed by the OH service, which details how they meet these verification points. The approval of the manual is followed by an audit of the OH service. In some cases, the customers of the OH services may be visited. Some elements of the certification process are repeated annually, while an extensive re-certification process takes place every four years. Two further examples were observed in the reviewed countries.

- In Poland, the primary units of Occupational Medicine Service (OMS) undergo evaluation through a voluntary accreditation scheme, which is commonly regarded as a useful tool in the quality assurance system. It is worth stressing that the system proposed is built on the system of internal control monitoring and professional supervision adopted by and within the OMS. The observations collected during internal controls may be used effectively in the accreditation process. Once an OHS unit is granted accreditation, both the employer and employees may be sure that it not only satisfies the requirements imposed by law, but also provides services of high quality. Such a unit will be recommended by the Centre of OMS Accreditation. Other units may also operate on the market but without the Centre's recommendation (Kopias & Wdowik, 2005).
- In the UK, a number of voluntary professionally-led accreditation scheme for OH services exist, one of which is SEQOHS ('Safe, Effective, Quality Occupational Health Service'; SEQOHS). The scheme provides recognition that an OH provider has demonstrated competence in delivery that meets SEQOHS quality standards. OH services must demonstrate they meet standards in six key domains: business probity, information governance, people, facilities and equipment, relationships with purchasers, and relationships with workers. MoHaWK: Management of Health at Work Knowledge is a national web-based benchmarking tool (separate to SEQOHS) which supports local audits for such services.

There is limited systematic evaluation of accreditation schemes regarding the quality of OH services. However, two such evaluation studies were identified. The certification process in the Netherlands was evaluated in 2002. However, the conclusion was that the certification system (at that point in time) was insufficient to produce meaningful incentive for quality improvement. The authors of the study speculate that it could be the regulations surrounding certification are so detailed and rigid that the managers of OH services felt compelled to comply with the numerous prescriptions of the system; rather than to provide the service requested and required by their customers (Marcelissen & Weel, 2012).

While not one of the reviewed countries, Norway provides an interesting example. In 2010, an accreditation system for OH services was implemented in Norway, and four years following its implementation a study was conducted to examine the experiences of OH providers during this time. A survey was sent to all accredited OH services in Norway, and it found that 56% of OH services felt the accreditation system in Norway led to higher quality in their OH service unit; and, more broadly, to OH services in Norway (47%). OH service providers reported the most common changes they had to make to achieve accreditation were: improvements of their quality assurance systems, planning for competence development and increased staffing in occupational hygiene and occupational medicine. The surveyed providers

felt the accreditation system had led to better quality assurance of the services provided by the OHS, better expertise, greater multidisciplinary working, and better cooperation with businesses. (Lie & Bjørnstad, 2015). While their general view was that accreditation schemes are useful and effective, this has not been definitively proven. See the forthcoming section “Staffing OH Services” for more information on the training requirements of OPs and OH nurses across each reviewed case study.

Conclusions

- Research on quality approaches adopted in the reviewed countries displays a wide range of variation (Michalak, 2002).
- Across many of the reviewed countries a combination of approaches is used to maintain minimum standards or care.
- Accreditation and certification are often viewed as an effective measure. However, there are mixed experiences across national examples, for example: Netherlands and Norway.

Table 7. Identified examples of quality assessment procedures used nationally

Country	Supervision/ Enforcement	Standards and Guidelines	Accreditation/ Certification
Australia			
Canada			
Finland	X	X	
France	X		X
Germany	X	X	
Republic of Ireland		X	
Italy	X		
Japan	X	X	
Netherlands	X		X
Poland	X		X
UK		X	X
USA			

Staffing OH services

The aim of this section is to broadly examine the role of professionals providing OH services and care within and across the reviewed case studies. The first section will examine the role and remit of (OH) professionals in the delivery of OH services within each reviewed country (see Table 8). Many OH services continue to be physician-led, sometimes with the support of (OH) nurses. The second section examines the role, professional association, and training requirements for Occupational Physicians (OP) and OH Nurses (see Tables 9 and 10).

Delivery of OH Services: The Role and Remit of OH Professionals

The ILO Convention on OH Services highlights two key considerations regarding human resources for OH services. Firstly, OH services should be provided by a multidisciplinary team (ideally comprising a physician, nurse, occupational hygienist, ergonomist, and psychologist; Rantanen, 2007; e.g. Netherlands, Finland, Germany). Secondly, OH service personnel should enjoy full professional independence from employers, workers, and their representatives (e.g. Japan and France).

Traditionally, OH services have been delivered primarily by a small, 'core' group of key professionals. This 'core' group of staff typically include: an OP, a nurse and (sometimes) an industrial hygienist (WHO, 2002). Physician-led services supported by (OH) nurses are commonly observed in Japan, France, Poland, and Italy (see Table 8). However, it is important to note that other OH professionals (e.g. ergonomists, psychologists, and safety engineers) may be involved in the delivery of OH services. The nature of the risks encountered and the health profiles of workers in each organisation or industry typically inform when different OH professionals may or should be involved in the delivery of care.

In some countries OH service providers have to employ certain professions (e.g. France, Italy, the Netherlands, Finland and Germany), and in others countries specific OH services require specific professions (e.g. Japan, Italy and France; see Table 8 for an overview). In contrast, in countries where OH services are voluntary and market driven, it is difficult to determine who the key (OH) professionals involved in the delivery of services are and, in turn, what the key tasks and roles are. However, in the UK, several voluntary accreditation systems exist for OH services: e.g. The Safe Effective Quality Occupational Health Service (SEQOHS, no date). This accreditation scheme (amongst other things) makes recommendations regarding the staffing of OH service providers, namely: staff members should be competent to undertake required duties; services should employ at least one professional with a qualification in occupational medicine or OH; and services must have access to a named OP. Whilst this accreditation scheme does not specify exactly which professions should deliver services (with the exception of having access to an OP), it provides an insight into the considered minimum requirement of human resources for OH service providers within the UK.

As previously mentioned, the importance of a multidisciplinary team of OH professionals (i.e. the inclusion of professionals beyond merely physicians and nurses) in supporting the delivery of OH services has been highlighted by numerous authors (e.g. Kopias, 2001; Rantanen, Lehtinen, Valenti, & Iavicoli, 2017) and is a key component of the ILO convention on OH services. In many of the reviewed countries, (e.g. UK, Canada, Australia, USA) the use of a multidisciplinary team varies greatly across in-house and external OH services meaning it is challenging to map the use of such teams across reviewed studies. Kroon & Overeynder (1991) suggest that this may be because the majority of companies cannot afford the comprehensive multidisciplinary OH service. Whether or not OH services are staffed by multidisciplinary teams can depend on: the model of the service, the nature of the industry and the types of work involved, the availability of the various specialists or of programmes for training them, and the extent of the available financial resources.

A limited number of the reviewed countries require OH providers to be staffed and delivered by a multidisciplinary team of OH. Some examples include:

- The Netherlands – OH services are required by law to be staffed by a multidisciplinary team, namely: OPs, health and safety officers,[7] occupational hygienists and work and organisational professionals.
- Germany – OH services are multidisciplinary. Typically, the range of the services, and the variety of professionals required to deliver such care, often increases with the size of the employer. OH providers serving larger organisations, for example, must employ at least an occupational physician, a safety engineer and a psychologist.

It is important to highlight that in some national contexts this is a point of national debate and area of policy reform. For example, France made changes in 2000 to give a more multidisciplinary steer to its national-level OH system. The aim was to deliver real primary risk prevention by supporting OPs with other medical and allied (health) professionals (e.g. OH nurses, ergonomists, psychologists, toxicologists, etc.). Grégoire (2014) suggests that this policy reform was driven by the decreasing number of OPs nationally. For example, in 2017, France had 5,409 OPs nation-wide, with 55.4% over the age of fifty (Drees, 2017). It is anticipated that the number of qualified OPs within France will decrease by 62% between 2006 and 2030. This is likely to be due to an increased number of OPs entering into retirement and the decreasing number of medical students seeking to specialise in this area (Grégoire, 2014).

Staff are sometimes brought in by external support services, when needed, to deliver certain services (WHO, 2002), and may include safety engineers, mental health specialists (e.g. psychologists and counsellors), work physiologists, ergonomists, physiotherapists, toxicologists, epidemiologists and health educators (Rantanen, 1990). For instance, in Australia, return to work (RTW) practitioners and rehabilitation providers (e.g. psychologists, physiotherapists, and occupational therapists) are often employed to: facilitate or expedite the process of returning to work following sickness; co-ordinate the process of returning to work with the employer and treating

[7] A health and safety officer has three statutory tasks: drafting (either independently or with others) the mandatory risk inventory and evaluation (RI&E), supporting the implementation of key measures, and advising and consulting the works council or staff representation on working conditions (see https://business.gov.nl/regulation/health-and-safety-officer/).

doctor; and provide some level of assessment of the workplace. If the worker is not rehabilitated, an approved medical specialist with training and certification in disability assessment calculates permanent disability.

In many countries, General Physicians play a central role in the provision of OH services at a national level. In particular, they play a pivotal role in supporting the return to work process, making recommendations on vocational rehabilitation and providing certification for sick leave (e.g. Canada, Australia and the USA). The role of General Practitioners in the U.K. is more limited to sickness absence management due to the GPs' limited knowledge of the individuals' workplace.

Table 8. Key professionals involved in delivery of OH services or care at national level

	Summary of Workforce for OH Services	Legally Specified Roles or Tasks
Australia, Canada and the USA	• OPs work in a range of settings (mostly in private practice), often with multidisciplinary teams, involving referral from and collaboration with a wide range of health professionals. • Referrals typically come from GPs, paramedical health professionals, employers, insurance companies and unions. • GPs play a central role in supporting workers' health through primary care, certifying sickness absence, and providing recommendations surrounding vocational rehabilitation and return to work considerations. • In Canada and Australia, Workers' Compensation Boards may staff RTW co-coordinators. Their primary role is to support the development and co-ordination of RTW plans between employees and employers. In Canada, RTW co-ordinators are certified by the Canadian Society of Professionals in Disability Management.	No identified specified roles of professionals in OH services.
Finland	• OH services are primarily staffed by OPs and OH nurses, and are supported by physiotherapists, psychologists, ergonomists, occupational hygienists, construction engineers, agriculture advisors, opticians, dieticians, speech therapists and physical fitness trainers, when such specialised services are required. • The composition of multidisciplinary teams varies greatly across OH providers. • Many OH providers are also supported by work ability co-ordinators, who support the development and co-ordination of individually tailored RTW plans.	A licensed physician working primarily in OH services must be a specialist in occupational medicine.

	Summary of Workforce for OH Services	Legally Specified Roles or Tasks
France	• The provision of OH services is typically physician-led, with OPs playing a central role. • Service delivery is typically supported by OH nurses, safety engineers, ergonomists, hygienists, or other professions depending on the activities of the company.	• The role and responsibilities of occupational physicians, as key players in the delivery of this system are defined by *Law 2011-867* on the organisation of occupational medicine and *Decree 2016-1908* on modernisation of occupational health services. • *Decree 2012-135* outlines the focus of occupational medicine.
Germany	• OH services are usually multidisciplinary offering specialist interventions from an increasing number of professions. The law requires employers to have an occupational health and safety specialist (typically a safety engineer) and an OP, either in-house or external. • Further specialised staff involved in the delivery of OH services are medical assistants, psychologists, and ergonomists. • All major OH providers employ at least an OP, a safety engineer, and a psychologist. However, the range of the services on offer increases with the size of the organisation. • The presence of the preventive services (OSH specialist and OP) in the establishment depends on establishment size, sector, and risk (or service) profile. • Beyond such professional requirements, it is difficult to specify the role of other professionals in the delivery of such services due to the free-market conditions many OH units operate within.	• The Act on Occupational Physicians, Safety Engineers and other OSH Professionals outlines four key duties for OPs. • The regulation DGUV (German Social Accident Insurance) Vorschrift 24 defines the qualification requirements of the OH services as well as general (regular) and specific (occasional) tasks (Grundbetreuung und Betriebsspezifische Betreuung) of OSH specialists and occupational physicians.

	Summary of Workforce for OH Services	Legally Specified Roles or Tasks
Republic of Ireland	• The Irish national healthcare system provides OH services typically staffed by an OP or physician with specialised knowledge in OH, OH Nurses and an OH administrator. • Many of these professionals work across multiple, regional OH units. These services are primarily focused on remedial support and treatment. • In-house or external OH providers operate under free-market conditions and the role and involvement of different OH professionals will vary. • Employers are encouraged to provide in-house or externally contracted OH services.	• No identified specified roles of professional in OH services.
Japan	• In large organisations, OH services may be delivered by an appointed OP/ specialised physician, general nurses, OH nurses and/or medical technologists. • In smaller organisations, OPs are typically recruited among private GPs, hospital or university-affiliated physicians or independent OH consultancies, to support in-house OH service delivery. • Smaller organisations have access to professional expertise through Regional OH Centres and OH Promotion Centres free of charge, including for example: health educators, mental health advisors, dieticians and healthcare trainers.	• Workplaces with more than 50 employees must appoint an OP (>1000 employees a full-time OP, 50 to 999 a part-time OP). There is no such requirement for employers with less than 50 employees. • Health examinations must be conducted in all workplaces (including pre-employment, monitoring and for full-time workers engaged in activity described as 'harmful work'). • Japanese law protects OP contracts and outlines seven key duties (see Table 8 for overview).

	Summary of Workforce for OH Services	Legally Specified Roles or Tasks
Italy	• OP/specialised physician-led care is central to the delivery of this system. • Physicians are supported by OH nurses or health advisors. Health advisors and health visitors offer specific skills in health promotion, health surveillance and vaccination programmes, planning and management, data collection and analysis; but they have fewer clinical skills compared to an OH nurse. • Other OH professionals may be recruited to provide specialist support when required. GPs play a key role nationally by certifying sickness absence and overseeing its management.	• All public and private sector employers must provide access to OH services that must be staffed by an OP. The OP must, by law, carry out employee health surveillance and must inspect the workplace at least once a year. Employers can engage a freelance OP or enter into a contract with a private OH centre.
Netherlands	• Physicians/OPs, safety officers, occupational hygienists and work and organisational professionals are key in the delivery of OH services. • Other OH professionals may be recruited to provide specialised services dependent on the activities of the organisation and the risks encountered by workers.	• The law requires OH (and safety) services to be delivered by four key professionals: physicians/OPs, safety officers, occupational hygienists, and work and organisational professionals.
Poland	• Primary OH centres can take the form of: a healthcare institution, OPs running their own private practice, or services established by employers. • Regional OH centres are public healthcare institutions established by a regional government that inspect, monitor and support primary centres, and provide postgraduate education. • OH providers are typically staffed and delivered by physicians, consultant physicians, OH nurses, OH hygienists, psychologists, psychotherapists, ergonomists, public health specialists and GPs.	• No identified specified roles of professional in OH services.

	Summary of Workforce for OH Services	Legally Specified Roles or Tasks
UK	• OH services are typically staffed and supported by OPs and nurses, although a wider spectrum of professionals may be required to support additional, more specialised services or provide tailored advice (e.g. psychologists, ergonomists, occupational hygiene specialists, occupational technicians, etc.). • GPs play a contributory role in supporting the care and management of workers' health which includes certifying sickness absence, providing recommendations surrounding vocational rehabilitation and return to work considerations and referring workers to specialist healthcare. However, it is important to note that there are likely to be differences in the role and remit of these professionals across the devolved countries and there are complexities of OH care and management within this context.	• Under Health & Safety regulations there are requirements in terms of medical training for those undertaking health and medical surveillance.

Qualification and Regulation of OH Professionals

As previously mentioned, the qualifications and regulation of OH professionals are important aspects of maintaining quality standards in the provision of OH services. See section “Minimum Standards on OH Services” above for further discussion on how the quality of OH services are evaluated and, in turn, enforced and regulated. Many countries have formulated official or semi-official competence criteria for OPs and OH nurses (see Tables 9 and 10 for an overview), however, criteria for the other disciplines have not been established. European Union principles call for confirmation of the competence of all OH specialists, and some countries have established certification systems (Rantanen, 1990). In Germany, professional guidelines are combined with the enforcement of regulations concerning the quality of OH services (Westerholm, 2007). The education and training of specialists in occupational medicine is regulated by the Federal Chamber of Physicians (Bundesärztekammer) guided by educational and professional guidelines. However, each federal state has its own set of professional guidelines. For medical professions (e.g. nurse, medical secretary, technical medical assistant) specialisation as occupational medical assistants require participation in six weeks of specialist training. However, the training is not regulated (Froneberg & Timm, 2012).

In general, internationally, training curricula for OH specialists are not well developed apart from those for OPs, nurses and, in some countries, occupational hygienists (Rantanen, 1990). The establishment of curricula at all levels for the various specialist categories (physicians, nurses, psychologists, safety engineers/ technicians etc.), including programmes for basic, postgraduate and continuing education, has been encouraged. It is also deemed desirable to include training elements of OH at the basic level of education, not only in medical schools but also in other institutions (such as technical universities, faculties of science and so on), which focuses on the development of competencies which enable the protection and promotion of worker’s health (Rantanen & Fedotov, 2011). The ILO Occupational Health Services Convention No. 161 highlights the importance of multidisciplinary teams in OH services to achieve the improvement of health at work, and promotion of workers’ health (Fedotov, 2005). While the content and multidisciplinary nature of OH services corresponds to international guidance, the coverage, comprehensiveness and content of services remain largely incomplete due to a lack of infrastructure and shortage of multi-professional human resources leading to a capacity gap in many countries across the world (Rantanen, Lehtinen, Valenti, & Iavicoli, 2017).

The professional identity of OH specialists needs to be supported on an equitable basis among the various disciplines (Westerholm, 2007). Strengthening their professional independence is crucial for efficient performance of their duties and may increase interest among other health professionals in developing lifelong careers in occupational health. In most countries, there are intentions to develop the competences of OH professionals and to increase the level of multidisciplinary working (e.g. France; Grégoire, 2014) or, as may be the preferred term, multi-professionalism. At present, however, the medical professions and physician-led OH care are predominant in most countries (Westerholm, 2007), as observed across a number of the reviewed case studies, for example: in Italy, Japan, the USA, Canada and Australia. Tables 9 and 10 provide an overview of the role and training

requirement of OPs and OH nurses across our reviewed countries. Among OPs there are clear national-level training and accreditation requirements, with many countries retaining a national register (e.g. France, and Italy). This was not always observed to be the case in relation to OH nursing, although in the U.K. certain courses are recognised by the Nursing and Midwifery Council (part 3 of the register).

In some national contexts, the roles and/or specific tasks of OPs are legally defined (e.g. Japan, France and Italy). For example, in Italy, OPs must conduct workplace surveillance annually, and if an occupational disease is identified an OP must certify it before a worker can apply for compensation. In Japan, OPs are required to execute seven key duties, including, for example: implementation of medical examinations and healthcare programmes for workers; health counselling and promotion of worker's health; and health education. In both Japan and France OPs are legally required to oversee larger OH units and the delivery of multidisciplinary service teams. In France, OP employment contracts with organisations for the delivery of such services are legally protected by French law to ensure and protect their professional independence.

There were several examples of initiatives aiming to support professional quality and practice by outlining the key competencies of OPs (e.g. the Netherlands, the UK, Australia, and Canada). Similarly, a competency framework for OH nurses was identified in Canada and the UK. Across a number of reviewed national contexts, a shortage of OPs (and other key OH professionals) was identified as a key concern nationally (e.g. Australia, Canada, the USA, Finland, France and the UK) and internationally (Lehtinen, 2015).

In Finland, the government provides a special training benefit for occupational medicine. This training benefit can be received by universities,[8] the Finnish Institute of Occupational Health, and private providers of OH services. In the USA, individuals wanting to train in occupational health are supported with stipends, benefits, tuition and malpractice insurance; programs are funded by the National Institute for Occupational Safety and Health (NIOSH).

Conclusions

- In general, across the case studies, OH services are typically physician-led and delivered by 'core' staff (namely, physicians/OPs and nurses/OH nurses)
- In some countries the involvement of certain OH professionals is required by law in the delivery of OH services, for example: Japan, France, Italy, the Netherlands and Germany.
- The increased use of multidisciplinary teams of OH professionals was observed across several case studies: The Netherlands, Germany, France and Finland.
- In general, across the case studies, the role, remit and training requirements for OPs is, by and large, well specified. However, this is not always the case for OH nurses, except for example in the U.K. where OH nurses can be registered with part 3 of the Nursing and Midwifery Council register.

[8] The Finnish parliament passes educational legislation and decides on the overall direction of education and research policy. The universities are governed by the Universities Act. Each field of study in universities is governed by a separate decree. See: https://ec.europa.eu/economy_finance/publications/occasional_paper/pdf/country_fiches/finland.pdf

Table 9. The role and training requirements of OPs

	The Role/ Key Duties of OPs	Training Requirements	Comments
Australia	• Key tasks include the delivery of patient treatment, workplace assessments, health surveillance and supervision of vocational rehabilitation, and assessment of fitness to work. • May also perform worker impairment assessments, provide advice to companies on issues such as illness or injury prevention strategies, and support the management of sickness absence.	• 3.5 years of specialised, post medical degree training offered through the Australasian Faculty of Occupational & Environmental Medicine (AFOEM). • Successful trainees are admitted to Fellowship of AFOEM.	• There is a shortage of OPs nationally.
Canada	• The Occupational Medicine Specialist of Canada outlines the seven key roles of OM specialists (including both OPs and OH nurses): medical expert; communicator; collaborator; manager; health advocate; scholar and professional (Occupational Medicine Society of Canada, no date). • In practice, the most common activities carried out by OPs are fitness-to-work and return-to-work evaluations.	• Must complete 5 years of post-medical degree training and pass qualifying exams. • Certification through Canadian Board of Occupational Medicine). • Examinations by Canadian Board of Occupational Medicine examines candidates at various professional levels: Associate; Certificant; and Fellow.	• Work mostly in private practice in corporate settings or medical clinics. • Growth in private sector. • May also be employed by government agencies and Worker's Compensation Board.

	The Role/ Key Duties of OPs	Training Requirements	Comments
Finland	• Provide primary care to employees (like GPs in other national contexts), as well as specific OH care and management. • Actively involved in prevention orientated OH activities. • Key tasks within this system include: action to improve health and safety, as well as employment relations, welfare and working life; and medicals/routine check- ups.	• Specialist post-medical degree training includes: 2 year supervised service in an approved OH service training centre, 1-year at the national OH research institute, and 1-year clinical duty in some other specialist field.	• OPs are represented by the Finnish Association of Occupational Health Physicians. • In 2015, OM second largest specialism among doctors in training, and the fourth largest in terms of specialist.
France	• Key tasks include: conduct preventive actions in order to ensure the physical and mental health of employees; advise employers, workers and their representatives on OH (and safety) issues; health surveillance of workers; contribute to traceability of occupational exposures, and health monitoring. • OPs are employed by organisations, but their contracts are protected by French law allowing them to maintain professional independence from their employers.	• 4 years of OH specialised training, plus a 3-year qualifying training period. • For certification, OPs must apply to the French Medical Association.	• Shortage of OPs nationally. • *Law 2011-867* on the organisation of occupational medicine modification redefined their role as a director of an OH service who has a total responsibility for multidisciplinary services.

	The Role/ Key Duties of OPs	Training Requirements	Comments
Germany	• They take part in prevention activities (e.g. risk assessment), as well as providing medical examinations which include a broad range of activities depending on the workers' needs. • Tasks include advice and consultation on occupational safety and hygiene, first aid in case of a work accident, and supervision over the hygienic conditions in the enterprise (Nosko, 1993).	• A post-graduate specialisation in occupational medicine (OM) or an additional post-graduate qualification as a company doctor is required. Specialisation in OM requires 360 hours of study, 24 months of practice as a physician and another 36 months of practice in OM. • Regulated by the Chambers of Physicians with the Association of the Occupational and Environmental Physicians and the Association of German Company Doctors.	• OPs may work in private practice. • There exists a shortage of OPs nationally.
Italy	• Most OPs are self-employed consultants. • Key tasks include: guiding employers, signing the legally required company risk assessment, conducting workplace and health surveillance, certifying the presence of an occupational disease, and the management of long-term sickness and return to work (but only in terms of assessing fitness for the specific job).	• Specialised training in occupational medicine lasting 5 years. • Must be nationally registered.	• In 00's specialists in hygiene and forensic medicine were allowed to practice health surveillance in the workplace (typically reserved for OM specialists). A move felt to devalue the OM profession (Manno et al., 2002).

	The Role/ Key Duties of OPs	Training Requirements	Comments
Republic of Ireland	• Can work privately and in national health care system. • Remit of role includes providing advice and support for the management of health and wellbeing in the workplace. • They are professionally skilled in the areas of health leadership and management, fitness for work, health risk management and the promotion of employee wellbeing.	• Training takes four years. • OPs must have a specialist qualification and be a member of the Royal College of Physicians of Ireland.	• Shortage of OPs.
Japan	• Are typically the directors of, and responsible for, OH services. • Seven, legally prescribed, duties: medical examination and implementation of a healthcare programme for workers; maintenance and control of the work environment; control of work; healthcare of workers (beyond those mentioned above); health counselling and other measures for the maintenance and promotion of workers' health; health education; and investigation of the causes of impairments to health and preventive measures for workers.	• Physicians must complete either an OH course through higher education or complete a qualification through the Japanese Medical Association. • Certified through the Japanese Society for Occupational Health.	

	The Role/ Key Duties of OPs	Training Requirements	Comments
Netherlands	• Key tasks include: the management of worker sickness absence behaviour, the execution of health surveillance programmes (based on risk assessment and evaluation), prevention-focused activities. • Netherlands Society of Occupational Medicine (NVAB) outlined 10 normative principles[9] to support provision of care. • Professional associations: NVAB and the Netherlands Society of Clinical Occupational Medicine (Burdorf & Elders, 2010).	• To specialise in OH, physicians must register in 'occupational medicine' (Royal Dutch Medical Association) and complete a postgraduate residency programme of 4 years offered by two postgraduate institutes. • Train in seven key roles: medical expert, communicator, collaborator, manager, health advocate, scholar and professional.	• To maintain their national registration to the NVAB, OPs must engage in professional development activities.
Poland	• Key tasks include: providing guidance and support; the surveillance of workers' health; work ability assessments; contribute to or make recommendations to support work(place) adjustments for ill or disabled workers; educating workers and employers on OH; organising first aid and emergency treatment; pre-employment and periodic health exams, record keeping, diagnoses of occupational diseases; and health promotion activities.	• Two stage process to train as an OP. • *1st Stage:* The first stage is the university level training at one of 12 medical universities in Poland. This is followed by 13-month post-diploma training and completion of a final medical exam. *2nd Stage:* Specialty training in occupational medicine lasting approximately 5 years. • The training is coordinated by the Centre for Postgraduate Medical Education.	• A recent survey showed Polish OPs ranked risk identification, health promotion and work ability assessments as their most important duties (Puchalski et al., 2007)

[9] https://nvab-online.nl/sites/default/files/imce/NVAB-Core%20Values%20occupational%20physician.pdf (in English).

	The Role/ Key Duties of OPs	Training Requirements	Comments
UK	• Key roles include: advising on law and ethics; the assessment of occupational hazards to health; the assessment of disability and fitness for work; communication; the assessment of environmental exposures to health; research methods; health promotion; and management of prevention and workers' health (Reetoo, Macdonald, & Harrington, 2004) • Faculty of Occupational Medicine (FOM) outlines six professional competencies.[10]	• Specialised 4-years of training post medical degree in area of occupational medicine (OM). Specialists must register with the FOM and undertake speciality training programme approved by the General Medical Council (GMC). Once completed, eligible for both Membership of the FOM and for entry to the GMC Specialist Register. • Doctors working part-time in OM can take a FOM diploma. The Diploma indicates a basic level of competence across the whole field of OM. Associates of the FOM hold a higher qualification and are usually in training to become specialists. Specialists will be Members of the Faculty or Fellows and able to deal with the full range and complexity of workplace problems.	• A shortage of OPs exists nationally.

[10] https://www.fom.ac.uk/careers/resources-for-medical-schools-medical-students/competency-framework

	The Role/ Key Duties of OPs	Training Requirements	Comments
USA	• Key tasks include: managing employee absences, evaluating work capacity, preventing work disability, assessing fitness for work, advising on appropriate work restrictions and implementing employee wellness programs. • Key competencies are outlined by American College of Occupational and Environmental Medicine.[11]	• Physicians receive standardised education with core curricula (individualised to their profession) necessary to pass national or state boards and to be licensed at state-level. They can then become certified in a specialty practice, such as OM, through a combination of additional specific education and experience. • Professional association: American College of Occupational and Environmental Medicine.	• Many work in private practice.

[11] https://acoem.org/learning/oemcompetencies

Table 10. The role, accreditation, and training requirements of Occupational Health Nurse (OHNs)

	The Role of OH Nurses	Training Requirements	Comments
Australia	• OHNs mostly work under the supervision of OPs, and typically work in multidisciplinary team of OH professionals. In 2011, there is no available information on the role, scale and qualifying standards surrounding such professions. • They are part of the Australian and New Zealand Society of Occupational Medicine.	• There is no formal education, formal accreditation system or set qualifications for OH nurses. • Typically, nurses become OH nurses through experience.	
Canada	• Key tasks include: managing and administering an OH service within legal and professional parameters; conducting health examinations; assessing the work environment; providing primary, secondary, and tertiary prevention strategies; providing health education programs; providing counselling interventions and programs; managing the information system; conducting health surveillance programs; monitoring injury/illness trends; as well as program planning, policy development, and developing cost-containment strategies (Canadian Occupational Health Nurse Association (COHNA), 2003).	• The Canadian Nursing Association (CAN) provides certification for nurses with specialism in OH. Further training in OH or OM through higher education (approximately a year) for registered nurses. • Ontario OH Nurses Association outlines 5 levels of experience: level 1, registered nurse (< 5 years OH experience, where they participated in courses and/or workshops relating to the specialty) to level 5, consultant (> 7 years' experience, Certificate or Diploma in OHN and CNA certification).	• Professional associations & interest group: Occupational Health Nurse Interest Group. • A code of practice was published for OH nursing (COHNA, 2003).

	The Role of OH Nurses	Training Requirements	Comments
Finland	• Primary health care alongside specific OH services (Finnish Social Insurance Institute, 2007). • Key tasks include actions to improve: health and safety, employment relations, welfare and working life. As well as medical/ routine check-ups within the context of OH care (The Social and Economic Council of the Netherlands, 2012). The role of OHNs includes coordinating services and working as a core group with OPs (Lehtinen, 2015). • The Finnish Association of Occupational Health Nurses (FAOHN) is a trade union for the OHN profession.	• Undergo the basic training of a public health nurse (4 years) and complete complementary studies needed to work in OH service with first two years (offered through polytechnics and Finnish Institute of Occupational Health). • Training covers: the OH service system; legislation; risk assessment; occupational medicine; psychosocial factors at work; ergonomics; health promotion; national work health and safety strategies; and planning of OH service (Lethtien, 2015).	• A considerable number of OHNs will retire soon due to average age of these professionals.
France	• OHNs are long-established in French workplaces, but only in large companies. Key tasks: the prevention of occupational stress, the assessment of psychosocial risks and the improvement of quality of life at work (Rauch, 2018). • OHNs must deliver services for in-house OH services in organisations with 200 people in industrial jobs or 500 in non-industrial jobs. As the company size increases, the number of OH nurses must also increase.	• Registered nurses (3 years of training) with more than two years' experience can go on to specialise in OHN. • Specialist (OHN) training includes one year leading to Diploma or Professional Degree. While this degree is not mandatory to take on these positions, it is highly valued by employers; OECD, 2016a).	• Unlike OPs, in this national context OH nurses do not benefit from protected employment contracts.

	The Role of OH Nurses	Training Requirements	Comments
Germany	• Several OH professionals potentially could be involved in the delivery of OH services. Nurses may be involved, but medical assistants are more common in this national context (Lehtinen, 2015). • Medical assistants (Medizinische Fachangestellte) play mainly a role in supporting the OP in medical examinations and laboratory work.	• Medical assistants qualify after three years of professional experience and by attending training organised by professional associations or other specialised providers. Once they have completed six training modules on various key topics (e.g. occupational illness) they receive a certificate. Each module equates to around about 30 hours of work.	
Italy	• The role of OHNs supports the implementation of health surveillance and workers' health education. The reason for this seems to be the absence of a specific training course for OH nurses (D'Orso et al., 2017).	• Must be a registered nurse (i.e. completed a 3 year nursing degree). • The training curricula for Nursing degrees and post-graduate Nursing Degree should include time for teaching specific OH skills (D'Orse et al., 2017).	• There is a need for specific post-graduate training courses for OH nurses.
Republic of Ireland	• The remit of this role typically includes providing advice and support surrounding the management of health and wellbeing in the workplace. • OHNs are professionally skilled in the areas of health leadership and management, fitness for work, health risk management and the promotion of employee wellbeing.	• Nurses cannot practice unless they are registered with the Nursing and Midwife Board of Ireland (NMBI). To register, individuals must complete an NMBI approved undergraduate nursing degree. • Qualified nurses may have additional qualification/training in OH. Although, it is not required for an OHN nurse to have these additional requirements.	The Irish Nurses and Midwives Organisation has a OH nursing section to support professional development in this area.[12]

[12] https://inmo.ie/Occupational_Health_Nurses_Section

	The Role of OH Nurses	Training Requirements	Comments
Japan	• None identified.	• There are no legal requirements or certification system for working as a nurse in OH settings; it is only necessary to be a qualified nurse.	
Netherlands	• OHNs may be in involved in the delivery of services (Baart & Raaijamkers, 2010), but are not required as part of the core multidisciplinary team. • Tasks include: providing first aid, health screening and surveillance, supporting return to work programmes, undertaking administrative duties, supervising occupational hygiene practices, delivering health promotion and workplace preventative programmes, and co-ordinating with healthcare services in the community (van Dorpe, 1981).	• Information not identified.	
Poland	• OHNs are involved in the delivery of OH services nationally. • OH nurses may also participate in many of the activities conducted by OPs (see table 9), with the exception of health exams. • Nurses can either be: specialists in OH nursing or complete a qualification course in occupational health nursing (Lehtinen, 2015).	• Qualified nurses can do further training in OH. • The post-diploma training in OH nursing is coordinated by the Centre of Postgraduate Training of Nurses and Midwives. • Training courses are organised by various authorised units nationwide. They last about two years (Lehtinen, 2015).	• OH services are well equipped with professionals and do not need an increase in number of nurses.

	The Role of OH Nurses	Training Requirements	Comments
UK	• Key tasks: risk assessment, risk management, activities to prevent work-related ill health, sickness absence management, health promotion, education and training. • There are specific competency requirements outlined in health and safety regulations that are directly applicable to OHN tasks: e.g. audiometry, lung function testing, hand arm vibration assessments.	• OHNs are part 3 registered nurses on the Nursing Midwifery Council (NMC) register. Nurses looking to enter OH will often do a post graduate OH course or a Specialist Community Public Health Nursing course. The latter conveys eligibility to register on part 3 of the NMC register. • Registered nurses may obtain a degree in OH.	• The Faculty of OH Nurses is developing education standards and a career development framework.
USA	• Key tasks: developing and implementing health and safety programs; developing disease prevention programs; documenting all work-related employee injuries and illnesses; observing and assessing the work environment for risks; treating injuries and illnesses; overseeing and implementing emergency and disaster preparedness programs; serving as a gatekeeper for healthcare services (e.g. rehabilitation and disability matters); counselling employees on physical and mental health issues; monitoring the employee health status; and conducting research.	• Registered nurses with specialised training in occupational medicine may be employed by OH services. • OHNs begin their education by becoming registered nurses who seek post-graduate education in OH nursing. • Many of these programs result in a master's degree as an Adult Nurse Practitioner with a specialisation in OH and are partially funded by the National Institute of Occupational Health and Safety (NIOSH).	• The NIOSH offers educational programmes and research opportunities in the field of OHN to support further career development. • Certified by the American Board of OH nurses by passing national exam following completion of post-graduate training.

Employers' Responsibility in OH Services

As discussed in the introduction of this report, there is a vast economic incentive for employers to look after their employees' health, due to the direct and indirect costs associated with decreased performance, availably for work (including both sickness absence and presenteeism) and, in the long-term, decreased work capacity. Research shows that employers are driven by a wide variety of reasons to invest in workplace health and employees' wellbeing, where legal compliance is only one of many motivating factors (EU-OSHA, 2012; Tu et al., 2019). A recent survey of British employers found the most important factors were: maintaining organisation's reputation, legal compliance with health and safety legislation, maintaining or increasing productivity through improved health of workers, minimising costs associated with sickness absence, and meeting expectations of their employees (Tu et al., 2019). Understanding how to support employers in meeting their legal responsibilities is therefore important, but encouraging employers to move beyond minimum standards of OH care and management is clearly paramount. The comparative review of case studies sought to identify some examples of practices used to support and encourage employers' activities in the provision of OH care and management (e.g. financial support, advice and guidance, toolkits).

The following sections aim to look at the responsibilities of employers in relation to four key areas: work-related activities and practices aimed at preventing work-related hazards (physical and psychosocial) and through managing employees' health-related behaviours; managing ill-health, disease or injury; employers' obligations to make adjustments and provide curative and rehabilitation activities; and obligations surrounding sick pay. The first section examines the prevention and management of employees' health and safety. Such activities are typically situated within the health and safety legal framework and focused on work-related injuries and ill health. However, in some reviewed case studies, such as the U.K., the outlined responsibilities of employers (e.g. beyond safety measures, such as physical and mental health) have gone further. The second section looks at employers' responsibilities to make adjustments to ill, disabled or injured employees' work or work environment. This section will also outline incentives or tools to support employer-led care in making work(place) adjustments for those employees in need. The third section looks at employers' responsibilities to provide curative and rehabilitation activities, and examples of incentives to support/ encourage employer-led actions. The fourth section looks at employers' responsibilities surrounding sick pay, and what wider social security measures exist to support individuals off work due to illness or those with disabilities. Each section outlines key examples of employed strategies used to increase employers' use of OH services for their employees (e.g. financial incentives, support systems, or advice, guidance or tools).

Employers' Role: Prevention and Management Activities

Employers are key players in helping disabled people and people with health conditions remain in and return to work; as well as in preventing health problems at work, unnecessary sickness absence, presenteeism and health related job loss (OECD, 2010; Tu et al., 2019). As discussed previously, in some countries employers are required by law to organise OH services (e.g. Finland, France, Netherlands, Poland, Italy, Germany, and Japan), while in others it is voluntary (e.g. UK, Republic of Ireland, USA, Canada, Australia). However, even among those countries where provision of OH services is voluntary, there still exists legal requirements that employers must meet in relation to the care and management of employees' health (for example, provision of health examinations and surveillance, work adaption, and advice services).

In all reviewed countries, there are key prevention activities that employers must conduct (e.g. identifying, monitoring and managing/ameliorating occupational risks) to ensure the health and safety of their employees. These requirements are typically enshrined under health and safety legislation, but not always. Many of these prevention principles and OH service functions are outlined in the ILO Convention on OH services. For example, employment, discrimination and social security laws outline key responsibilities for employers, broadly, requirements to: make workplace adaptions, provide curative services, support return to work programmes, and meet sick pay arrangements. Table 11 provides an overview of employers' responsibilities across the 12 reviewed countries in relation to prevention and management OH service activities.

Employers' Responsibility and Good Practice Examples: Prevention Measures and Health Promotion

In some national contexts, there is a very strong focus on prevention activities, which are clearly integrated into the content and activities of OH services. For example, in Finland, employers are required to organise and pay for preventive services for all employees, regardless of the size or form of the organisation, or industrial sector (Lehtinen & Rantanen, 2012; Leino, 2009). In contrast, the provision of curative services (inclusive of medical care and health examinations for workers) is voluntary on the part of employers. In Poland, employers are responsible for providing occupational health and safety services, whereby the primary task is around prevention activities. Many of the key prevention activities required of employers typically fall within national-level health and safety requirements and, therefore, may be conducted as part of the content and activities of OH services (e.g. France, Finland, Poland, etc.). They could, however, be conducted elsewhere within organisations (e.g. health and safety departments, human resource departments).

Across all of the reviewed countries, employers have a requirement to manage and prevent work-related ill-health and mental ill-health at work through assessment and management of work and organisational risks. For many countries, these responsibilities are indirectly assumed as part of employers' duty to do 'everything reasonably practical in order to prevent all work-related ill-health, physical and mental'. The exception, however, is Italy. Decree 81/2008 provides specific coverage

of work-related stress within national occupational health and safety legislation. In many countries (e.g. UK, Canada, and Australia) a national-level standard and guidance is being developed to support such preventative measures.

For example:

- The National Standard of Canada for Psychological Health and Safety in the Workplace is the first of its kind in the world. It is a set of voluntary guidelines, tools and resources intended to guide organisations in promoting mental health and preventing psychological harm at work.
- In the UK, the British Standards Institution (BSI) have developed a voluntary standard on the management and prevention of work-related psychosocial risks in the form of a publicly available specification, PAS1010 (2011); and, more recently, PAS3002 (BSI, 2019) that outlines a code of practice on improving health and wellbeing within an organisation.
- In Australia, national guidance was recently published (SafeWork Australia, 2019) outlining a systematic approach for organisations to prevent and manage work-related psychological health and wellbeing.

However, the compliance with such obligations across many countries is relatively low in small sized companies (European Survey of Enterprises on New and Emerging Risks, 2010). Some countries require employers to monitor workers' health and capacity (e.g. Netherlands, France, Finland, Germany, Japan, and Poland) or to provide health examinations for their workers (e.g. France, Germany, Poland). In some national contexts, health examinations are for preventative reasons (such is the case in Poland), while in other contexts they are part of the wider worker health surveillance system (such is the case in Germany and France).

There has been global policy development focussed on minimising the impact of long working hours on health. In Europe, the Working Time Directive sought to minimise workers' weekly working hours. Japan provides another interesting example of a country seeking to address and manage long working hours. Japan aims to increase employers' responsibilities towards promoting workers' health, beyond health surveillance. This is, in part, due to the growing awareness and concern regarding *Karoshi* (death by overworking). Employers are also required to refer 'overworked' employees (defined as more than 100 hours of overtime per month, or more than 80 hours per month during the previous 2–6 months) for consultation with the OP,[13] who will provide them with tailored recommendations. Furthermore, employers are required to develop a mental health promotion plan with special reference to the system, its implementation, staffing and a privacy policy. They are also required to implement the plan through four routes: (i) self-care by employees; (ii) care through line management carried out by managers and supervisors; (iii) care provided by the company's healthcare staff; and (iv) care provided by external healthcare staff (Muto, 2007).

In many national contexts, typically within the health and safety legislative context, employers have a duty to appoint or consult a professional to provide advice and guidance (e.g. UK, France, Poland, Italy, Germany, and Japan). For example, in the UK, the Management of Health and Safety at Work Regulations 1999 imposes

[13] Employers must appoint a full time OP (workplaces with more than 100 workers) or part time OP (50-99 workers).

a legal duty on employers to appoint a 'competent person or persons' to help them implement the measures they need to take to comply with the legal requirements. They may choose to: (i) procure or develop this professional knowledge in-house; (ii) use external advice and services; or (iii) use a combination of both. In the context of Japan, Italy and France employers must appoint an OP to support OH management, and are typically bound to respect and, in turn, implement their proposed recommendations.

Table 11 aims to provide an overview of some of the prevention activities required by employers with regards to OH management. It is important to note that in some of these national contexts there remains a concentrated focus on prevention activities for injury and accidents, rather than the health and wellbeing of working age adults (particularity, those that relate to stress and mental health issues). Table 11 also identifies a number of examples of practices used to support employers in engaging in prevention activities and promoting employee wellbeing. The examples broadly relate to: advice and guidance (e.g. Finland, Canada, Australia, UK and the Republic of Ireland); policy (e.g. Japan, Canada, the Netherlands); law (e.g. Italy); financial support (e.g. Finland); and employer-led toolkits (e.g. UK and the Republic of Ireland). It is important to note that not all of these identified examples from practice have been rigorously evaluated.

Table 11. Summary of employers' responsibilities for prevention and management activities, and examples from practice used to support employer action

	Brief Summary	Examples from Practice
Australia	• No employer obligation to provide OH service. • Legal responsibility to provide several key prevention activities (e.g. monitoring risks in the workplace, providing training and education, and monitoring and preventing injuries, etc.) typically falling under employer health and safety responsibilities. • Voluntary employer-led measures to support mental health and wellbeing of employees.	• National guidance on work-related psychological health and safety. • Employer–focused guidance on how they can meet their duties of care in relation to mental health of workers.
Canada	• No employer obligation to provide OH service. • Legal responsibility to provide a number of key prevention activities (e.g. develop a programme to monitor and manage work-related risks; provision of workers with information, training and education; and monitoring and preventing injuries) typically falling under health and safety responsibilities. • Development of national standard on mental health at work to support voluntary action by employers.	• National Standard for Psychological Health and Safety in the Workplace is a set of voluntary guidelines, tools and resources intended to guide employers in promoting mental health and preventing psychological harm at work. • Preliminary evaluation of this national standard has shown that it can help minimise the economic and personal costs of mentally unhealthy workplaces.

	Brief Summary	Examples from Practice
Finland	• Employers must organise and fund preventative OH services. • (Health and safety) responsibilities, include for example: controlling hazards at their source; eliminating hazards or managing their risk; arranging collective safety measures (ahead of individual-based procedures); evaluating the effectiveness of the health and safety measures undertaken; and continuously following-up and monitoring working conditions. • They must also: describe the organisation and content of their OH services in a company-wide plan; provide periodical health examinations for certain employees if the work being done involves a specific risk of illness or other health risks; monitor the work capacity of employees and, if compromised, provide support in early intervention together with the OH services; and provide information, guidance and advice to employees.	• The Finnish Social Insurance Institution compensates the employer for a proportion of the costs of OH services when: the service is provided by personnel qualified for OH care as required in the OH Care Act; the employer has a valid OH care service agreement, and the OH plan is up to date and the planned functions are being implemented.
France	• Employers must organise and fund OH services. • OH service should include: maintaining workers' physical and mental health; advising on measures to eliminate or reduce occupational risks and improve working conditions; monitoring workers' health; and monitoring and analysing exposure to occupational risks. Obligations to conduct health examinations and worker health surveillance (inclusive of pre-employment and periodic health checks) for 'at-risk' or vulnerable workers. • Employers are bound to respect and implement OP recommendations. • Employers must evaluate the work-related risks and record their results in a "single document" containing an inventory of the risk(s) identified in each work unit. It should be regularly updated and shared with key stakeholders (e.g. workers and OPs) and service regulators.	• The law requires the inclusion of work-related stress in routine risk assessment.

	Brief Summary	Examples from Practice
Germany	• Employers must organise and fund OH services. • Employers are required to consult OSH specialists. • Clear duties regarding the provision of health and safety, including the minimum annual working time of occupational physicians in various sizes and sectors of enterprises. It also specifies the amount of time to be provided per employee according to the national risk category • Health examinations are part of workers' health surveillance, which are required to be conducted by OH services.	• None identified.
Republic of Ireland	• No employer obligation to provide OH service. • Legal responsibility to provide several key prevention activities (e.g. identifying and managing work-related risks; provision of information, training and education; and monitoring and preventing injuries), typically falling under employer health and safety responsibilities. • Voluntary measures to support the prevention and management of work-related stress and psychological risks at work.	• Work Positive Programme: Toolkit supports employers to support the management and prevention of work-related stress and psychological risks at work. • Preliminary evidence of its effectiveness in preventing work-related stress and improving employee wellbeing.
Italy	• Employers' obligations include: drafting the document for the evaluation of risk (including a risk assessment); appointing the occupational physician; appointing the health and safety service at the workplace level; informing, educating and training workers; providing workers with the necessary personal protective equipment; and monitoring workplace injuries. • The law requires the inclusion of work-related stress in routine risk assessment.	• Employer-focused guidance on how they can meet their duties of care in relation to the prevention and management of work-related stress. Preliminary evaluation has shown this to be a useful employer tool.

	Brief Summary	Examples from Practice
Japan	• Employers are responsible for the provision of OH services. • They are required to: ensure maintenance and control of the work environment and work, provide OH services (including appointing an OH physician), provide compensation for injured or harmed workers, and comply with the quota system for hiring disabled workers. • All workplaces must provide health examinations for their employees. • Employers must develop and implement a mental health promotion plan. • Employers are required to reduce overtime working, and must refer employee to the OP if they work > 100 hours of overtime per month or > 80 hours per month during the previous 2–6 months for advice and guidance. Employers are obliged to implement recommendations by OP.	• Total Health Promotion Plan is a policy approach that recommends workplace-focused prevention interventions (e.g. prevention of work-related stress) through changes in working practices and the organisation of work. This policy approach was partly driven by national-level concerns regarding karoshi (death by overworking).
Netherlands	• Employers are responsible for organising and funding OH services. • Dutch employers have clear health and safety responsibilities. Occupational Safety and Health catalogues are employer-led instruments that support them in meeting such responsibilities. The use of OSH catalogues can be used by employers to demonstrate legal compliance. • Appointed OH services must be supported by a multidisciplinary team (OP, safety engineer, work and organization psychologist, industrial hygienist). • The remit of this professional support should cover three key areas: to give advice on sickness absence management and prognosis of recovery; check and approve the company's occupational health and safety risk assessment; and to conduct occupational health surveillance of employees in cases of work-related risks.	• OSH catalogues contain methods and techniques, good examples, standards and practical manuals related to various aspects of the management of occupational risks and the management of workers' health. • Demonstrates wide coverage of Dutch workforce, however, their implementation of good practice is challenging and there is a need to periodically update documents.

	Brief Summary	Examples from Practice
Poland	• The employer bears responsibility for the state of work safety and hygiene and must organise and fund a Work Safety and Hygiene Service. However, the roles and responsibilities of the employer in providing this service is dependent on the size of the organisation. • Must employers ensure their employees undergo preventive health examinations carried out by the Occupational Medicine Service.	• None identified.
UK	• There is no obligation for employers to organise OH services. • Legal responsibility to provide several key prevention activities (e.g. identify and manage risks; training and education, consult with employees, record and log injuries and occupational disease). Many of these activities more broadly map onto their health and safety responsibilities. • Employers are also required to appoint 'one or more competent persons' to help them meet their duty to control health and safety risks at work. • Voluntary measures to support employer-led actions to prevent and manage work-related stress: Management Standards for Work-related Stress.	• Management standards for work-related stress is employer-focused toolkit and guidance documents. • Has shown positive impact in terms of employer engagement and prevention of work-related ill-health.
USA	• No employer obligation to provide OH service. • Legal responsibility to provide a number of key prevention activities (e.g. monitoring risks in the workplace, providing training and education, and monitoring and logging any work-related illness and injuries that require medical treatment, etc.). Many of these activities more broadly map onto their health and safety responsibilities.	• Total Worker Health[14] programme outlines policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker wellbeing.

[14] https://www.cdc.gov/niosh/twh/totalhealth.html

Employers' Obligations and Supporting Good Practice: Work Adaptations and Curative and Rehabilitative Measures

One of the key activities of OH services is to provide treatment and rehabilitation for employees. The knowledge of OH paired with the knowledge derived through monitoring working conditions (e.g. job demands) and the work environment enable OH professionals to play a key and effective role in the management of health problems and in rehabilitation. There may be a variety of groups of workers (e.g. older, younger, pregnant, or ill or injured workers) that may require reasonable adjustments to their work or to the workplace (OECD, 2010). The provision of such adjustments is particularly important in supporting disabled people, ill or injured employees to either remain in or return to work following a period of absence.

Work Adaptations

Work adaptation is the modification or adjustment to a job or work environment for an employee with an impairment, illness, or disability. This may also extend into adjustments during the hiring process (OECD, 2010). Advising and promoting the adaptation of work (and/or the work environment) is outlined as one of the key functions of an OH service (WHO, 2002). In all the reviewed countries in this review, employers have obligations to make reasonable adjustments to employees' work and their workplace based on their needs. In some countries this applies to ill, injured and disabled employees (e.g. the Netherlands), while in others this only applies to disabled people (e.g. UK). However, British employers can receive help for adaptations through the government funded Access to Work scheme. The work adaptions are typically required up to the point where it is reaching unreasonable or disproportionate expense on the part of the employer (OECD, 2010). In many countries, these legal requirements of employers are enshrined in legislative documents that seek to protect employees against discrimination and provide equal opportunities of employment.

A limited number of countries stand out as having employer duties that go beyond the more general work or workplace adaption obligation (OECD, 2010; see Table 12). For example, in Germany, employees with an illness or disability have the right to receive modifications or adaptions to their work and work environment and to receive additional assistance at work if required. They may also request part-time employment. A unique requirement of German employers is to preferentially select disabled, ill or injured employees to participate in training, whether this is attending in-house training or providing them with the necessary support to attend elsewhere. In some national contexts, employees have the legal right to request flexible working (e.g. UK)[15] and part-time employment (e.g. Germany and Finland). Canada requires employers to make reasonable workplace adjustments and to document the process as part of the remain-at-work or return-to-work process.

Across a number of the reviewed countries a variety of different methods have been used to encourage employer-led action, with some case studies using a more 'stick' (e.g. the Netherlands) and some a 'carrot' (e.g. Republic of Ireland, Italy, UK)

[15] Flexible working rules are different, however, in Northern Ireland.

approach. A number of initiatives were identified with the primary aim of providing employers with the advice and guidance to make the necessary adaptions to workers' work and work environment (Australia, Italy, Japan, UK, and Canada). Additionally, a number of examples of national-level schemes that provide financial support to incentivise employers to make necessary work accommodations (Australia, Italy, Republic of Ireland, and UK) were also identified.

Some examples include:

- The Irish government offers an employee retention grant, which provides financial support to private sector employers for people who have become disabled whilst in employment. It aims to assist the retention of employees by providing funding to: identify accommodation and/or training to enable the staff member to remain in their position; or retrain the staff member so that they can take up a different position within the company. The first stage of this funding scheme provides funding to employers in relation to the development of an individual written Retention Strategy, devised by an appropriately qualified specialist (maximum of €2,500 or 90% of eligible programme costs per employee). Stage two provides funding towards the cost of retraining the employee, hiring a Job Coach or a specialist to support or manage the implementation of the Retention Strategy (maximum of €12,500 or 90% of eligible programme costs per employee).
- In Italy, employers complying with the law to make reasonable accommodations for injured or ill employees are given access to financial incentives and technical support.

In the Netherlands, there exists a strict set of sickness management procedures employers must complete (e.g. Gatekeeper protocol), including providing reasonable adjustments. If an employee is unable to return to work after a two-year period, and it is felt the employer did not meet their duties to support the employee's return to work (as prescribed by the Gatekeeper protocol), they may be liable to pay a further year of sick pay by way of sanction. In the Netherlands, a 'no risk' policy for hiring disabled employees exists. This means that should a disabled employee require a longer spell of absence from work, the employer is not responsible to pay their sick leave during this period. This payment is made by the relevant social security institution instead. See Table 12 for a summary of employers' responsibilities in regard to work(place) adaptions and adjustments.

Table 12. Summary of employers' responsibilities for work(place) adaptions and adjustments and national examples of initiatives to support employer-led action

	Employers Responsibilities	Examples of Initiatives to Support Employer-led Action
Australia	• Australian employers are obliged to accommodate work or the workplace for employees with a health impairment or disability, as well as keeping the job available for a reasonable period following sickness absence (Australian Equal Opportunity Act, 2010).	• Free advice, workplace assessment and funding for workplace changes offered through JobAccess. • Employers can apply for funding support through the Workplace Modifications Scheme – an Australian Government fund – to help cover the cost of accommodating workers with disability. • The Disability Employment Services providers are a mix of large, medium and small, for-profit and not-for-profit organisations that support people with disability as well as provide assistance to employers to put in place practices that support the employee in the workplace.
Canada	• Canadian employers are obliged to accommodate work or the workplace for employees with a health impairment or disability. • Employer must document the process as part of a remain-at-work or return-to-work plan. • Must return a sick, impaired, or injured employee to work, whether that is to their original role or possibly in a different position in the company.	• Tools to support managers to complete remain-at or return-to work plan. • Worker compensation boards across Canada provide employers with various tools and support to meet legal obligations. For example, the workers' compensation board of Alberta provides employers with tools to support return to work through a modified work programme. • A variety of policy-levers are used to support employer-led OH action across Canadian jurisdictions, including for example decreasing insurance premiums rates (e.g. Province of Manitoba and Alberta).

	Employers Responsibilities	Examples of Initiatives to Support Employer-led Action
Finland	• Finnish employers must provide reasonable adjustments related to work conditions, work organisation, working hours, work methods, facilities, training and arrangement of work. • Finnish employers are obliged to provide part-time employment contracts on the basis of a report on the employee's health to help them remain at work.	• None identified.
France	• French employers must provide reasonable adjustments related to work conditions, work organisation, working hours, work methods, facilities, training and arrangements of work for disabled employees or those with an impairment. • Employer must give access to professional training (unless costs thought to be disproportionate) for disabled employees or those with an impairment.	• None identified.

	Employers Responsibilities	Examples of Initiatives to Support Employer-led Action
Germany	• German employers must make workplace adjustments for workers with a disability or long-term illness. • This includes: providing employment according to skills and abilities, preferential selection for individuals to participate in and attend training (wither in-house or elsewhere, examining vacancies for potential for a disabled person, right to work assistance, right to part-time work, right to adapted workplace.	• None identified.
Republic of Ireland	• Irish employers must provide reasonable work(place) adjustments, including adjustments to provide access to the workplace, and modifying the job context, working time and work organisation.	• Intreo' is a government-led service offering practical, tailored employment services for employers and jobseekers alike. This service is a key national-level source of support for employers aiming to employ and retain people with disabilities. • The employee retention grant offers financial support to assist private sector employers in retaining employees with a long-term illness. This grant provides funding for: (i) identifying adjustments and/or training to enable the staff member to remain in his/her position; or (ii) retraining the staff member so that he/she can take up a different position within the company.
Italy	• Italian employers are required to make reasonable adjustments in the workplace for employees with either temporary or permanent disabilities or impairments. • The law (Law no. 68/1999) requires private and public sector employers with more than 15 employees to employ a quota of workers with disabilities.	• Employers complying with the law to employ a quota of workers with disabilities have access to financial incentives and technical support through expert advice and guidance (EU-OSHA, 2016).

	Employers Responsibilities	Examples of Initiatives to Support Employer-led Action
Japan	• Japanese employers must take measures, following a doctor's advice, to change the nature of work, working hours or adapt the workplace for an employee with a disability or long-term illness. • Hiring quota of disabled employees for workplaces with more than 50 workers.	• State-funded regional centers provide employers with expert advice and a set OH services to support employer-led management of OH. • If Japanese employers do not meet hiring quota they are fined. If they do, they can receive financial support. For example, if an organisation exceeds hiring quota, it can obtain an adjustment allowance of ¥27,000 per month for each person above the quota. Employers may receive an adjustment allowance as well as additional rewards if they give jobs to persons with disabilities engaged in home-based work (Ministry of Health, Labour and Welfare, 2012). • The government provides grants to cover additional costs incurred by employers in their attempts to hire disabled people or retain employees who have become disabled. For instance, grants are available for upgrading the workplace environment, developing the skills of disabled people, and hiring job coaches.
Netherlands	• Rehabilitation obligation can include work adjustments and reduction in working hours, as well as training. • The provision of workplace adjustments for employees is a key component of the Gatekeeper protocol (managing sickness absence). Failure to comply with protocol may result in employers being liable to pay a further year of sick pay.	• Disability premium discounts are available to employers who hire employees with disabilities. Employers who hire an employee over the age of 50 or keep an employee older than 54.5 years do not have to pay basic disability premium for these workers. • State offers a 'no-risk' policy for employers when hiring disabled persons, which removes the obligation of employers to pay sick pay (for up to two years) for an employee with a disability and long-standing illness. Instead the employee's insurance covers these costs.
Poland	• Ensure suitable workplace adjustments following illness or injury to help employees to either remain at work or return to work following a period of sick leave.	• The State Fund for the Rehabilitation of Disabled Persons supports disabled persons' access to employment and rehabilitation. All rehabilitation and employment programmes (including sheltered work) are financed from levies on employers not meeting the disability quota (European Commission, 2013).

	Employers Responsibilities	Examples of Initiatives to Support Employer-led Action
UK	• Duty to make reasonable adjustments for a disabled employee or disabled job applicant. This may include: working shorter hours, adapting equipment employees use at work to enable them to return to work, or allowing rehabilitation absences if this would be a reasonable adjustment. All workers have right to request flexible work.	• The Fit for Work advice and information service provided OH advice to support employees to remain or return to work. In 2018, this service was closed but the website is still accessible. • Income Tax (Recommended Medical Treatment) Regulations sets out an exemption from income tax for employers of up to £500 per employee per tax year if they fund recommended medical treatment for the purpose of assisting the employee to return to work after a period of illness or injury (HMRC, 2014; DWP, 2014). • If a disabled employee is not able to get adjustments from their employer (in line with the Equality Act 2010), they may be able to get help from Access to Work – government scheme that funds "reasonable" adjustments.
USA	• Provide reasonable adjustment, unless this results in undue financial hardship for company.	• Job Accommodation Network, which provides expert (one to one) assistance to employers on providing accommodations for employees with disabilities.

NB '*None identified*' does not mean such initiatives do not exist, but were not identified when searching through the published English literature

Rehabilitative Services and Return to Work

Another key aspect of OH services is the contribution to rehabilitation services. Such provisions broadly support the rehabilitation from illness or injury and the effective reintegration of employees into the workplace after a long spell of absence. This section aims to identify employers' responsibilities in relation to the provision of rehabilitative (or curative) services, supporting workers return to work following sickness or injury, and the legal parameters surrounding termination of workers during this period of time.

In some countries, there were no specific employer obligations surrounding rehabilitative measures (see Table 13). In others, there are requirements of employers to return an employee to work, if not in the same position, in a different position with different conditions (e.g. Canada, Australia, France, and Italy). In the USA and Poland, there are obligations for employers to allow time for rehabilitation exercises.

Some examples of employer duties to support return to work efforts include:

- In Germany, if an employee is off work for more than six weeks during a 12-month period due to sickness, an employer should invite the employee to a meeting to discuss the situation and their re-integration following the absence. The purpose of such a meeting is to discuss in what ways the workplace has influenced the absence of the employee and determine whether the employer can make any changes and help to improve the employee's health. The employee is not required to attend the meeting or give any details regarding their illness, but their lack of participation could be viewed unfavourably if they wished to commence legal proceedings against their employer.
- In Canada, the Labour code provides protection against dismissal, lay-off, suspension, demotion, or discipline because of absence due to illness or injury. That is, an employer cannot terminate their employment because of their leave, but can do so on other legitimate grounds (e.g. poor performance or unavoidable downsizing). Therefore, employers are required to return the employee to work (as long as the absence does not exceed 17 weeks). The employer must outline the remain-at or return to work plan.
- In the Netherlands (the Gatekeeper protocol) and in Finland (30-60-90 rule), both employers and employees have specified roles and responsibilities by law during periods of sickness absence by workers. In both cases, this process is supported by OH services, in particular by the OP.

The Gatekeeper protocol in the Netherlands outlines clear roles and responsibilities (within a fixed time structure) of both the employer, but also the employee, in developing and implementing a return to work programme. Reintegration, if possible, is the central aim (de Boer et al., 2008; van Sonsbeek & Gradus, 2011), with a concentrated focus on workplace accommodation (OECD, 2010). Employers have a clear set of tasks and responsibilities as part of this process, namely: to prepare a reintegration approach within 8 weeks and to submit a plan on rehabilitation measures after 42 weeks and a report after the first year of sick leave. Both parties can be sanctioned for their failure to participate in this process. OPs play a key role in supporting and advising the developed and implemented plan.

The strengthened sickness monitoring obligations through the Gatekeeper protocol, and within a wider suite of policy reforms within the Netherlands have observed a notable impact on sickness absence rates and a notable decrease in benefit claimants over time. In the Netherlands during the 1980's an estimated 10% of working days were lost due to sickness absence annually (OECD, 2007). However, since this time a dramatic decline in the level of sickness absence has been observed: stabilising at around 4% (Netherlands Organisation for Applied Scientific Research (referred as TNO employment), 2016). Van Sonsbeek and Albalas (2010) estimated that the combined effect of the series of policy reforms to disability and sick pay in the Netherlands during this time period resulted in a reduction of inflow into disability benefit schemes by 48%.

In 2012, the 30-60-90 rule for prolonged disability was introduced in Finland. The 30-60-90-day rule and partial sick pay benefit scheme are policy-level initiatives aimed at encouraging and supporting sustained and phased return to work. This policy, like the Gatekeeper policy, sets out clear responsibilities for both the employer and the employee during spells of sickness absence, with set periods of time. For example, employers must report an employee's absence due to illness to the OH service provider within the first 30 days. The 30-day limit is cumulative in a one-year period. Within two months (60 days) the employee must apply for sickness allowance. Sickness allowance is paid as compensation for loss of income due to your incapacity for work and is available to those living permanently in Finland, covered by Finnish social security, and aged between 16 and 67. Sickness allowance is usually paid based on your confirmed taxable earnings. If the spell of absence from work is prolonged, the employer must consult with the worker and the OH service to assess their remaining work capacity and potential to return to work. The OP must issue certification of these when the employee has accumulated (cumulatively) 90 days of sick leave over a two-year period. The employee must submit this statement to the Finnish Social Security Institution.

Within several national contexts (e.g. Japan and France), employers are required to respect and respond to the recommendations proposed by OPs in regard to both reasonable workplace adjustment, but also in developed remain-in or return-to-work plans. For example, in Japan, the OP is authorised to make recommendations to employers as part of their duties. In 1996, the protection provision was included in the Industrial Safety and Health Act that meant the employers could not dismiss or otherwise retaliate against the OP because of health recommendations. A further amendment to this Act in 2018 required employers to report the contents of the OP's recommendations to the health committee (Mori & Sakamoto, 2018). Non-compliance with these legal requirements can result in a penalty fee.

The following section looks at national-level examples of initiatives related to the provision of expert advice and guidance, and financial support to encourage employer-led action in the area of vocational rehabilitation and return or remain at work programmes.

Advice and Guidance

There are a number of examples of services that aim to facilitate the increased awareness and use of well developed and managed return to work programmes for disabled people, engaging SMEs through either national- (e.g. UK) or regional-level (Japan, France and Germany) advice services. Regional-level service models

are used in Germany, Japan, Finland and France to provide targeted OH care and disability management. Evidence of the impact of these regional services could not be identified.

In Finland, Australia and Canada, the RTW process is supported by dedicated professionals who help develop and implement a RTW management plan. In Australia and Canada these RTW co-ordinators may be available through regional workers' compensation boards. Changes to Australian state and territory legislation have required workplaces with a minimum number of employees to nominate a workplace return to work (RTW) coordinator to facilitate the rehabilitation of injured workers at the worksite (e.g. Work Cover New South Wales, no date.; Worksafe Victoria, no date). There is clear evidence that supports the effectiveness of early intervention in the workplace for injured or ill workers with the assistance of a RTW coordinator (Franche et al., 2005; Shaw et al., 2008). In Finland, such professionals support OH services. Broadly the aim of such individuals is to support both the employer and employee through the management and implementation of the RTW process. James at al. (2010) conducted a qualitative study of the return to work co-ordinator role. They found that the professional background of these professionals varied, but that their interpersonal skills and collaborative case management style were two of the most important competencies in this role.

Several examples which aim to provide financial support to employers were identified.

- For example, in the province of Alberta, Canada, if employers can demonstrate to the workers' compensation board they have a successful RTW programme to support ill or impaired workers, they are rewarded with lower insurance premium rates.
- In the UK, individuals can apply for an Access to Work grant (offered by the Department for Work and Pensions) if they have a physical or hidden disability, or a mental health condition that makes it challenging for individuals to get work or to do their job. For those eligible the individual or their employer may receive money to help support access to items (e.g. equipment) or services (e.g. counselling) in need. Furthermore, employers may receive tax relief for medical treatment(s) they fund to help employees return to work (up to a maximum cost of £500).

Table 13. Overview of employers' responsibilities in relation to vocational rehabilitation

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
Australia	• Employers are responsible for assisting in the occupational rehabilitation and RTW of their employees. Must be involved in the development of employees' RTW plan and obliged to comply with its recommendations. Obligations to keep job available varies by jurisdictions.	• Some worker's compensation authorities operate injured employee placement incentive schemes to encourage employers to employ those who are injured and unable to return to work with their previous employer. For example, the 'WISE' scheme (State of Victoria) offers employers insurance protection if the employee ceases work because of a new injury. In addition, the cost of that given claim is excluded from the employer's injury insurance premium calculations. Some workers' compensation authorities employ return to work coordinators, who are chiefly in charge of supporting RTW plans for both the employee and employer.
Canada	• For work-related injuries and illnesses where reasonably practicable, there is a duty to return an employee to work. If not in the same role, in a different position with different conditions.	• Some workers' compensation boards rewarded employers with lower premium rates if they can demonstrate good return-to-work programmes. • In some jurisdictions, workers' compensation boards may employ return to work coordinators.

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
Finland	• The 30-60-90-day rule guides employer roles and responsibilities during long-term spells of sickness absence, including consulting with the employee and OH service during a period of sick leave and formulating a return to work plan.	• Government grants to support employers that offer work to long-term unemployed persons, those under 25s, and those with a disability. • The 30-60-90-day rule emphasises early notification of prolonged sickness absence to both the OH service and the Finnish Social Insurance Institution. It requires the active participation of the employee, the OH service and the employer through the return to work process (Halonen et al., 2015). • Some OH services may employ work ability coordinators to support the development of tailored RTW plans.
France	• No employer obligation regarding rehabilitation. • Employment is protected during sick leave and cannot be terminated. Employers are obliged to give access to, or retain, a position corresponding to the qualifications of employees. • Employers must ensure a work resumption examination is carried out after a spell of absence. • Employer is bound to respect and respond to OP recommendations. Non-compliance can result in a fine.	• None identified.

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
Germany	• Germany has reintegration requirements. Employers have to offer a reintegration plan to employees with sickness absence lasting 6 weeks or more. • Termination of employment because of illness is determined on a case by case basis. Typically, it is permissive if worker is unlikely to recover.	• Regional expert advice centres on disability issues are linked to local job centres.
Republic of Ireland	• No employer obligation regarding rehabilitation.	• The 'Intreo' service provides employers with financial support, guidance and tailored information to employ or retain employees with disabilities. • The employee retention grant offers financial support to private sector employers should a worker acquire an illness, health condition or injury. It aims to assist employers in retaining such employees by providing funding to: (i) identify accommodation and/or training to enable the staff member to remain in his/her position; or (ii) retrain the staff member so that he/she can take up a different position within the company.
Italy	• No employer obligation on vocational rehabilitation. Must conduct health examinations prior to RTW. If a worker's suitability for specific tasks is limited, they must assign the employee to an equivalent position, or, if not possible, to a lower level position, while ensuring the original remuneration.	• None identified.

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
Japan	• No employer obligation for vocational rehabilitation measures. Employers have hiring quota of disabled employees.	• State-run regional OH centres (ROHC) and OH promotion centres (OHPCs) provide services free of charge. • ROHCs: provide health guidance, give advice on the improvement of the work environment and procedures, and give information on OH services. • OHPCs: support the ROHCs, providing technical consultations for OH personnel, collecting and providing information on OH, training OH personnel, and managing public relations concerning OH (Hino et al., 2006; Muto, 2007). • Placement centres, vocational rehabilitation programmes, and support centres run by the government, independent, legal persons, or non-profit organisations were also introduced. These aimed to provide more regional support, also to SMEs.

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
Netherlands	• Duty to support RTW process with the central aim being reintegration for both work and non-work related ill-health absences and injuries. Obligations outlined in strict "Gatekeeper" protocol, which outlines a fixed time structure and required practical steps. Reintegration, if at all possible, is a central aim (de Boer et al., 2008; van Sonsbeek & Gradus, 2011), with a concentrated focus on workplace accommodation (OECD, 2010). • Termination of contract during sick leave period (104 weeks) is strictly prohibited. • The Netherlands has also a no-risk policy for employers when hiring disabled persons. This policy-initiative removes the usual obligation of employers to pay the sickness benefits up to two years for an employee with a disability and long-standing illness. Instead the employee's insurance covers these costs.	• State offers a 'no-risk' policy for employers when hiring disabled persons, which removes the obligation of employers to pay sick pay (for up to two years) for a disabled employee or employee with a long-standing illness. Instead the employee's insurance covers these costs. • Disability premium discounts are available to employers who hire disabled employees. Employers who hire an employee over the age of 50 or keep an employee older than 54.5 years do not have to pay basic disability premium for these workers. • Disability premium discounts are available to employers who hire employees with disabilities. • Should an employer hire a worker over the age of 50 or keep an employee older than 54.5 years, they do not have to pay basic disability premium for these workers.
Poland	• Disabled employees have the right to special breaks for rehabilitation exercises.	• The State Fund for the Rehabilitation of Disabled Persons supports disabled persons' access to employment and rehabilitation. All rehabilitation and employment programmes (including sheltered work) are financed from levies on employers not meeting the disability quota (EC, 2013).

	Employer Rehabilitation Obligation	Incentive or Supporting Employer-led Care National Examples
UK	• No employer obligation regarding vocational rehabilitation or to monitor or manage sickness absence. The only exception is to allow for disability leave if the employee is covered by the Equality Act 2010.	• The Fit for Work advice and information service (which closed in 2018) provided OH advice to support individuals to remain or return to work. Advice was provided free of charge (via phone or online) and was also accessible to employers and healthcare professionals. The assessment service is closed but the website can still be accessed. • Employers may receive tax relief for medical treatments (up to £ 500) they fund to support the return to work of an ill or injured employee or for employee (HMRC, 2016).
USA	• Obligations for employers to allow time for rehabilitation exercises.	• Employers may solicit the tailored advice and practical support from the National Institute of Occupational Safety and Health (OSHA) in management of OH (and safety) risks at no cost (including both workplace adaptions and vocational rehabilitation measures). • Employers may obtain assistance free-of-charge from professionals funded by cooperative agreements between OSHA and state agencies or universities.

NB 'None *identified'* does not mean such initiatives do not exist but were not identified when searching through the published English literature.

Sick Pay and the Wider Context of Sickness Benefit

The purpose of social protection in the case of sickness is to ensure access to health care and adequate financial protection. Sick leave, sick pay by employers and sickness benefit schemes are key social protection instruments to replace loss of income during periods of ill health. It is important, however, to distinguish between sick pay, sick leave, and sickness benefit.

- *Sick leave* concerns the right to be absent from work during sickness and return to one's job when recovered.
- *Sick pay* is the continued, time limited, payment of (part of) the worker's salary by the employer during a period of sickness.
- A *sickness benefit* is provided by the social protection system to individuals who are unable to work due to illness and is paid as a fixed rate of previous earnings, or a flat-rate amount.

In many of the reviewed countries, most employers are obliged (whether by law, collective or individual agreement) to provide sick pay for ill or impaired workers for a specified period of time (OECD, 2010); whether this is for an initial shorter period of absence or for the entire duration of sick leave. However, the proportion of the wage to be covered and the period of entitlement vary significantly across countries. Ranging from a few days or weeks (e.g. Australia, Japan, Canada) to longer periods (28 weeks in the UK; or up to 104 weeks in the Netherlands; see Table 14 for a summary across all reviewed countries).

Sickness benefits schemes vary widely across national contexts, especially by eligibility conditions, duration and replacement rates (Spasova et al., 2016). Across many countries, sickness benefits schemes have undergone significant reforms over the last two decades (e.g. UK, and Netherlands). In many cases this has seen a shift in emphasis from the provision of longer-term benefits to increased focus on shorter-term benefit schemes (e.g. UK and Netherlands), and revisions to (more specifically tightening) eligibility criteria for claimants due to sickness or disability (Spasova et al., 2016)

The Netherlands is an interesting case study is relation to the policy reforms around sick pay and sickness benefits. In the 1990's, there were two major socio-economic factors that strongly influenced policy-level reforms in the Netherlands: a high percentage of sickness absence, with rates increasing to almost 10% during this time; and the rapidly increasing number of people dependent on social security arrangements due to inability to work (OECD, 2007). Consequently, the Dutch government implemented several key reforms to the field of disability management. For example, they announced an incentive for employers to reduce sickness absence, which required employers to pay the wages of employees that are absent from work, irrespective of the cause, initially for six weeks; and then in 1996 this was increased to 52. In 1998, economic incentives for employers were introduced, and social security arrangements were shifted to the required use of private reintegration services. As previously discussed, in 2002 the Gatekeepers Law was introduced. This policy reform saw employers issued new responsibilities to prevent long-term

sickness absence and to stimulate early return to work, triggered by additional significant economic incentives. OECD (2007) summarised many of the wider set of reforms during the 1990s. See Table 14 for a summary.

Table 14. Summary of key policy reforms to sickness and disability schemes in the Netherlands (OECD, 2007)

Policy Reform Area: Financial incentives and disincentives for employers, employees and implementing bodies were introduced during this period by:	
	Increasing the financial consequences of employee sickness and incapacity for organisations.
	Increasing the financial consequences of sickness and incapacity for employees.
	Providing grants for reintegration programmes, workplace modifications and other schemes.
	Requiring Institute for employee Benefits Schemes (UWV) and local municipalities to outsource reintegration work to private companies.
Policy Reform Area: Responsibility of employers, employees and benefit claimants for job retention and reintegration was increased by (e.g. Gatekeeper Law):	
	Requiring assessment of workstations for risks to the health, safety and welfare of employees.
	Increasing responsibility of employers for reintegrating their sick employees.
	Increasing the obligations of employees, employers and benefit claimants.
Policy Reform Area: The activating nature of the system was enhanced by such means as:	
	Toughening the eligibility conditions for benefits.
	Reassessing those on disability benefit under the age of 50.
	Creating the possibility of “privatisation‟ of the disability risk.

Only a few countries have tried to address longer term absence from work through comprehensive rehabilitation and job insertion programmes and ‘new’ forms of benefits (e.g. follow-up benefits; e.g. Finland and the Republic of Ireland; Spasova et al., 2016). The main purposes of such benefits are to avoid permanent exit from the labour market. Both Finland and the Republic of Ireland’s reforms to sickness benefits, introducing a new form of benefit aimed at supporting early and phased return to work, are summarised in Table 15. Both countries have introduced a benefit scheme that allows workers to return to work in a reduced capacity for a period of time, but to still be eligible for state sickness benefits during this time. Several studies have examined the impact of this benefit in Finland (Kasuto et al., 2014; Kaustor et al., 2012; Vikari-Juntura et al., 2017). All three of these studies demonstrate positive findings in terms of increasing work retention and enhancing return to work (See Table 15 in Finnish case studies for a detailed overview of each study). While the

current comparative review only looked at one Nordic country, partial sick leave and partial sickness benefits are common features in Sweden, Norway, and Denmark (Kausto et al., 2008).

Table 15. Summary of sick pay, social security measures and areas of innovation

	Regulations Surrounding Provision of Sick Pay	Social Security Measures
Australia	• The National Employment Standards stats full-time employees are entitled to 10 days paid personal leave (inclusive of sick leave) per year. There is a pro-rata rate for part-time employees.	• Income support payment is available for those that can't work due to illness, injury or disability.
Canada	• Most provinces in Canada don't include sick leave in their employment standards legislation, leaving it up to the discretion of the employer. The province of Ontario, for example, recently introduced 10 days of general emergency leave, including two guaranteed paid sick days starting in January 2018.	• Ill or injured workers may also receive support through compensation (if eligible) and income benefits.
Finland	• Obliged to pay employees a continued wage payment for the first ten days at 100% salary. By collective agreement, however, most Finnish employers pay full salary during the first one to two months	• Sick pay and disability benefits are paid by the Social Security Institution. After a ten-day waiting period, employees on sick leave collect sick pay for a maximum of 300 days (the amount comes to 70 percent of their wages up to a certain annual income, and a lower percentage for higher incomes). Anyone who has not recovered by then may qualify for a disability pension. • Partial Sickness Benefit was introduced in 2007. This scheme allows part-time sick leave with part-time work (Kausto et al., 2014) directly following the 10-day waiting period.
France	• Sick pay is subject to conditions and a three-day waiting period. The insured worker receives 50% of their salary from social security services, provided that they have worked 200 hours in the previous three months. The employer is required to top up this proportion to at least 90% of pay.	• Depending on the length of service and the sectoral collective agreements in place, compensation may last up to six months – beyond that, the worker's doctor must apply to the local health services authority for a long-term illness exemption (*affection de longue durée*). In certain cases, the waiting period is compensated by the employer (Rosseau, 2010).

	Regulations Surrounding Provision of Sick Pay	Social Security Measures
Germany	• Continued wage payment for the first six weeks.	• German citizens are automatically and compulsorily insured on entering employment, if their regular income before deductions exceeds €400 per month and remains below a set annual limit (€49,950 in 2010). A variety of public and private health insurance schemes are available.
Republic of Ireland	• No employer obligation, but company-level policies may exist to provide such provisions.	• For workers who cannot work due to illness or injury, and are covered by social insurance, can receive state benefits. The claimant can be paid for up to: (i) 2 years if they have 260 weeks of reckonable social insurance contributions; or (ii) 1 year, if they have 104 to 259 weeks of contributions. • After 6 months they may work and receive Partial Capacity Benefit (PCB). PCB allows individuals to return to work, even if they have reduced capacity to work, and to continue to receive a social welfare payment. A Medical Assessor will assess the restriction on their capacity for work. Their assessment will determine the personal rate of PCB paid.
Italy	• Under Italy's labor law, employees are entitled to paid leave for 3 working days per year in the event of a serious illness (subject to a doctor's notice). • The employer must pay 100% of the employee's salary from the first day of medically certified sickness absence from work, followed by 60% for the following two days.	• Statutory sick pay is a benefit that replaces pay, starting from the 4th day of absence from work. Entitlement to the benefit ends at the end of the prognosis (end of illness). • Statutory sick pay is paid for a maximum of 180 days per calendar year.

	Regulations Surrounding Provision of Sick Pay	Social Security Measures
Japan	• Wage payment for three days (waiting period). After waiting period, the (state) insured worker may receive injury and sickness allowance.	• The sickness allowance (equivalent to 2/3rd of the average standard monthly remuneration over the most recent 12-month period) is paid for 18 months. • Extended support may be received following the 19th month of sickness under certain conditions. Disability pensions and grants may also be received.
Netherlands	• Employers must pay sick pay for at least 70% of the employees' wages during the first 104 weeks of absence due to sickness/ disability. • The 70% of employees' wage is capped to a maximum daily wage (EUR 219.28).[16] If the amount is lower than the statutory minimum wage, the employer must supplement it to the minimum wage for the first year. • In practice, most of the companies will pay 100% salary during the first year of illness. For the second year of illness the percentage varies per company and per industry.	• Temporary employees or those receiving unemployment benefit, come under the Sickness Benefits Act and will receive a benefit from the Employee Insurance Agency (UWV), equal to 70% of the average daily pay received before illness. • The self-employed can take out voluntary insurance in case they become ill. This could be with the UWV or a private insurer.
Poland	• Polish employers must pay sick pay. For the first 33 days of sick leave, employees continue to be paid (typically 80% of gross earnings) by their employer, following which the sickness allowance is paid by the Polish Social Insurance Institute.	• From the 34th day, the employee is entitled to receive sickness allowance financed by the Social Insurance Institution. • Sickness allowance can be paid for a period of 182 days. • Rehabilitation benefit is granted to people who are still unfit for work due to illness or injury after a period of receiving sickness allowance (up to 12 months).

[16] https://www.uwv.nl/particulieren/bedragen/detail/maximumdagloon

	Regulations Surrounding Provision of Sick Pay	Social Security Measures
UK	• Employees can get £95.85 per week Statutory Sick Pay (SSP). It's paid by the employer for up to 28 weeks. Employees need to qualify for SSP and have been off work sick for four or more consecutive days in a row (inclusive of non-working days). • This financial figure is, however, the statutory minimum, and employers may offer more if they have a company sick pay scheme. Recent evidence suggests many employers do in fact pay more than this (DWP, 2020).	• Can claim Universal Credit or New Style ESA if individual cannot work because they are sick or disabled whether that be temporarily or permanently.
USA	• No national requirement in the US to offer sick pay, although different jurisdictions have their own laws on this. • However, the Family and Medical Leave Act (FMLA) requires companies with more than 50 employees to allow them unpaid time off for medical leave, or to care for a family member.	• Ill or impaired workers may receive cash benefits from their jurisdiction's workers' compensation board or authority. • Disabled individuals may receive benefits through disability insurance programmes, including cash benefits (after 5 month waiting period), Medicare benefits, and vocational rehabilitation services.

Conclusions

- Many of these approaches are aimed at supporting OH provision through prevention of work-related ill-health and supporting workers in vocational rehabilitation and return to work processes. Within many of these approaches, employer-led OH care is a defining characteristic. Central to the delivery of these services are trained professionals aimed at supporting both the employer and employee, where access to such knowledge and practical support is easy and free of charge.
- Many of the identified approaches have not been systematically evaluated. Therefore, further research is needed to understand and quantify the impact of such approaches at policy and practice levels. Where such approaches have been evaluated the findings have been positive.
- Several financial incentives exist aimed at supporting employer-led action, with many focusing on work accommodation and supporting increased employment of disabled individuals.
- There exist several national-level examples of support systems and services targeting employers. The primary focus of many such services is on supporting employer action on retaining or reintegrating ill or impaired employees or disabled employees. However, strong evaluation of such schemes is limited, and therefore it is challenging to determine the impact and value of such initiatives.
- Many countries have policy reforms in this area. The suite of policy reforms to sick pay and disability benefit schemes in the Netherlands has resulted in a major reduction in benefit claimants.
- Only a few countries have tried to address longer term absence on sickness benefits through comprehensive rehabilitation and job placement programmes and ‘new’ forms of benefits (i.e. follow-up benefits; e.g. Finland and the Republic of Ireland). Evidence derived from Finland highlights the effectiveness of such policy reforms.

Report Conclusion

This report presents a comparative review of 12 international case studies, detailing national-level OH systems and provisions. A key objective of the review was to provide an overview and categorisation of a diverse set of international OH systems. The aim was to capture the essential and key defining characteristics of such national-level systems and provision of services; and, in particular, to identify variations in their content, systems, structure, coverage, and methods of delivery. In so doing, it is hoped that there are key lessons to be learned on what, how and why such systems are effective in maintaining the health and enhancing the work capability of the working population. The following sections aim to provide a macro-level summary of the key findings of the report and to identify key points of reflection. A concentrated effort was made to understand the extent to which requirements to provide OH apply only to work created or exacerbated health problems, in contrast to supporting someone with health problems not generated by their job. Even though the policy and practical distinction is, within the available literature, not clear at times, a number of specific differences in how countries handle these different sources of health problems were identified, and are highlighted as appropriate throughout this report.

A key reflection from this report is the national-level distinction between and national-level understanding of the disciplines of OH and occupational health and safety. In some countries, the national-level systems are strongly characterised by an integrated approach and understanding of OH and OHS systems and practices (e.g. the Netherlands, France and Finland); whilst in others they are viewed somewhat separately (e.g., the UK).

The legal and policy context

The ILO Occupational Health Services Convention (1985) is a key policy that can provide a useful framework in which to examine and compare OH systems and provision of services across countries. As a key regulatory policy instrument it provides a useful framework to inform and guide the focus, structure, content and delivery methods of OH services within national-level systems.

Among the reviewed countries only a limited number have ratified this convention: Finland, Germany, and Poland. However, all remaining countries were found to voluntarily subscribe to many of its key principles and outlined areas of activity (see Table 3 for some observed examples). In direct comparison, a larger number of the reviewed countries had ratified the ILO Convention on Occupational Health and Safety and the Promotional Framework for Occupational Safety and Health Convention. Both these conventions are broad in scope and highlight the need and importance of OH services within national-levels systems, while outlining their key elements in terms of their structure, content, or delivery.

All reviewed case studies outline the delivery and provision of OH care within their legal frameworks. However, the level of detail and specification of such OH provisions and services varies across the reviewed countries. In some countries this is achieved through a single Act describing – typically – the objectives, activities,

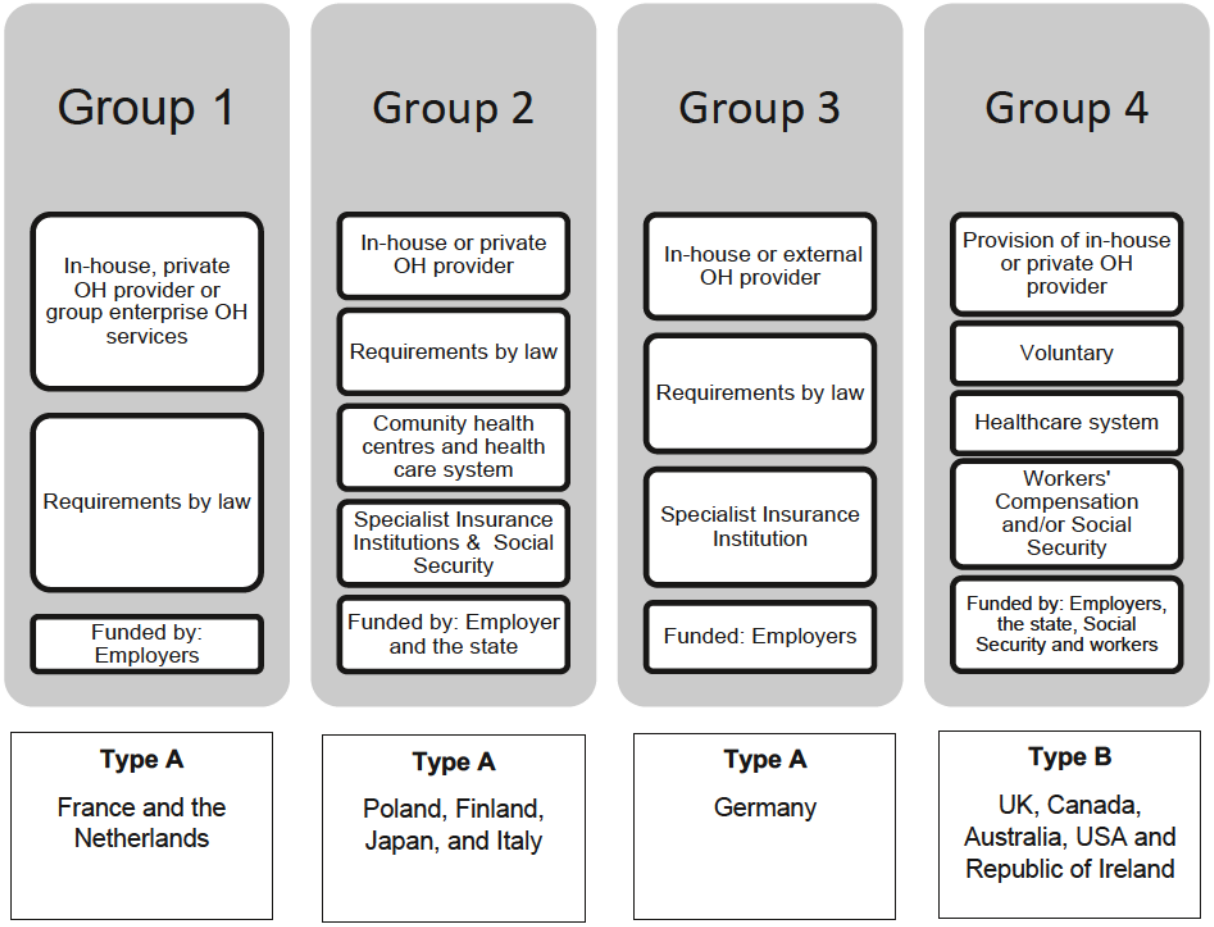
obligations, and delivery methods of OH services ('**Type A**' forms of legislation; see Table 3 for overview). This legislative approach was found in Finland, Germany, Poland, the Netherlands, Italy, Japan, and France (see Table 3).

In contrast, **Type B** forms of legislation (Australia, Canada, Republic of Ireland, UK, and USA) are characteristically more fragmented in their policy approach. Instead of a single Act stipulating the structure, content and/or delivery of OH services and provisions, they include various laws and regulations that oblige employers to carry out certain activities or discrete tasks. Such legal duties and responsibilities of employers are outlined across governance domains, such as: health and safety, employment and discrimination law, social security, and healthcare.

The Organisation, Financing and Coverage of OH Services

OH services may be organised by the employer themselves or by a group of organisations, public authorities or official services, social security institutions, any other bodies authorised by the competent authority, or any combination of the above. Consequently, there are various OH service models that can characterise national-level OH systems and provision of services. The aim of the review was to identify and compare the OH service models that were used within the reviewed countries, and to seek to reflect on how they integrate and work at a system-level. Within this review, concentrated efforts to understand and map the key funders within this system of OH care and management, and its implications in terms of national-level coverage were considered. Figure 1 summarises the comparative findings. Four predominant groups were observed that capture many of the commonalities across the reviewed OH service models.

Figure 1. Grouping of national-level OH systems by OH service models



Key Characteristics of Groupings

Group 1 (France and the Netherlands) is broadly characterised by:

- National system characterised by a smaller number of OH service models.
- There are prescribed duties and responsibilities in terms of the organisation of OH services and care within their national-level legislative framework (Type A).
- Estimated high level of coverage. However, (similar to other groups) coverage gaps exist among the self-employed, micro-sized companies, agriculture, and informal sector.
- The requirement for employers to provide OH services to their employees, both with respect to providing health and safety and with regards to sickness absence management. In both national contexts, there exist clear legal requirements for employers in the return to work process, with OH services being centrally involved in the management of the return to work process. Employers are primary funders of the system.
- In both national contexts, the role of occupational physicians is strongly defined and they play a central role in the delivery of OH services.

- In both countries, delivery is through a private market for OH services. In France, employers (depending on their size and needs) may either use an in-house service or (typically adopted by smaller organisations) a group enterprise service model. In the Netherlands, employers can provide an in-house OH service or may privately contract OH expertise to provide access to services to their employees.
- Near comprehensive coverage is observed within this group. However, gaps in coverage continue among the self-employed, contract workers, agricultural workers and those in the informal sector.

Group 2 (Japan, Poland, Italy, and Finland) is broadly characterised by:

- Uses a wider spectrum of OH service models these are typically well established within their national-level systems, are defined by a singular and integrated legislative approach (Type A) and are funded (primarily) through the employer and the state.
- High levels of estimated coverage, ranging from 75% (Italy) to 90% (Finland). Coverage gaps existed among the self-employed, micro-sized companies, agriculture, and informal sector. However, in contrast to other groups, the availability of OH provisions through the healthcare system may help to attenuate such coverage issues. In particular, for the self-employed and smaller-sized organisations.
- In all countries, employers are required to provide access to OH services for all employees for health and safety, either through in-house services, provision of OH expertise, or through contracting private OH providers. Similar to Groups 1, 2 and to a degree 3; but not Group 4 (where there are no such legal requirements).
- The provision of OH services and care can also be accessed by workers through the healthcare system: in Poland through the national Occupational Medicine Service, in Italy through regional/ local health authorities, in Japan through regional OH Centres, and in Finland through the municipal OH units. Employer contributions are important sources of funding for such services. In Japan and Finland, in particular, such centres can be useful for smaller-sized companies in providing OH provisions and providing employers with advice.
- Support and additional services may be accessed through social security programmes. In some reviewed countries, the state offers financial incentives and supports employees directly through early or phased return to work (e.g. Italy and Finland). For example, in Finland, the Finnish Social Insurance Institution (Kela) reimburses employers for the costs of preventive occupational health care.
- In Italy, the national workers' compensation authority (INAIL) also plays a key role in supporting injured or ill workers in their return to work (where injuries or ill-health are work-related).
- The key funders within this grouping are, directly or indirectly, both the employers and the state.

Group 3 (Germany) is broadly characterised by:

- National system characterised by a smaller number of OH service models.
- There are prescribed duties and responsibilities in terms of the organisation of OH services and care within their national-level legislative framework (Type A).

- Employers solely fund the provision of OH services and provisions.
- Estimated high level of coverage.
- OH services are accessed through employer-based provisions (either through in-house services or an external OH provider) or a specialist insurance institution (typically used by smaller companies). Such institutions are funded by employer contributions, and therefore within this grouping employers are the chief funder. OH services operate under free market conditions and do not form part of a public health scheme or National Health Service, unlike group 1 (France and the Netherlands).
- In 2004 Germany introduced a requirement for employers to offer reintegration/ rehabilitation management. The only other country with similar requirements of employers is the Netherlands (the Gatekeeper protocol).

Group 4 (USA, Canada, Australia, UK, and Republic of Ireland) is, broadly, characterised by:

- Group 4 uses a variety of models of OH service and care, which are (compared to other groups) not as well integrated at the system-level or typically within the national-level legislative framework.
- Estimated coverage within this group, in general, is comparatively lower than the other groups: 35% (Republic of Ireland) to 50% (UK).
- The provision of in-house or private OH providers, which is typically voluntary and market driven on the part of employers.
- The healthcare system provides provisions to primary (and some forms) of secondary care. The Republic of Ireland is unique, compared to those in this group, in that basic OH services are provided through the National Health Service Executive through regionally-based clinics (embedded in Community Health Organisations and Hospital Groups).
- Physicians, and in particular GPs, play a particularly important role in these national contexts in terms of providing work ability advice to sick workers and, at times, providing recommendations and advice regarding the return to work and rehabilitation process.
- Access to services and provisions to support ill or injured workers where ill-health is work-related are provided through Worker's Compensation Schemes (e.g. Canada, USA and Australia) or social security programmes (e.g. USA and Republic of Ireland). Workers' Compensation Schemes also provide financial compensation to workers in cases of work-related injuries or ill-health. Provision of OH services to support workers with non-work related health conditions is voluntary.
- The key funders of this group are employers, the state, the social security programmes and the workers themselves. Private (health) insurance is a strong feature among many in this group. This is typically provided by employers to employees as an employment benefit, or self-funded by workers themselves.
- Many of the access points to care within this system are encumbered by several (potential) key challenges: workers requiring (health) insurance (privately or through their company); type of employment contract or those employed in smaller companies (less likely to provide access to OH services); or the type of illness or aliment that qualifies workers' compensation and access to services.

- However, the fragmented and voluntary nature of these national-level OH systems may play a key role. In particular, in the USA, Canada and Australia the need for health insurance to access (or ability to self-fund) many OH services privately may be a key challenge, as such protections are not universally held nationally.

It is important to note, while we have tried to group these reviewed countries based on defining characteristics of their OH service system, considerable variation and diversity continues to exist both across, but also, importantly within groupings. The aim of this synthesis is to identify some overarching similarities and commonalities in such systems, rather than to suggest that such systems are intrinsically the same. The observed diversity in approaches and adopted services models is the direct result of the socio-historical and legislative approach, including to social welfare and labour markets as well as health care, across each of the reviewed countries which informs the adopted contemporary policy approach and agenda; but also the model of OH services provision and funding.

Minimum Standards in OH Services

In many national contexts, the use of enforcement and supervision are key methods used to maintain quality standards in OH care and services. However, there are a growing number of voluntary methods (such as standards, guidelines, accreditation, and certification schemes) used to maintain the quality of OH services across the reviewed countries. Within the reviewed case studies, a number of examples of such voluntary standards were observed. Across many of the reviewed countries a combination of approaches (enforcement and voluntary quality standards) are used to maintain minimum standards of care.

The use of standards and guidelines for OH practice was observed in five countries (Ireland, UK, the Netherlands, Finland, and Japan). Some of these approaches focused on the development of standards, codes of practice, and the development of guidelines to support discrete OH professionals, for example Occupational Physicians (e.g. UK, the Netherlands and Japan) and to promote good OH service practice (e.g. the Republic of Ireland and Finland). All standards and good practice guidelines were evidence-based in their design and development.

Accreditation or certification of specific OH services and providers are commonly regarded as a useful tool in supporting the quality assurance of OH services (Kopias & Wdowik, 2005). Across a number of the reviewed countries this was a common feature: e.g. France, Poland, UK, and the Netherlands. Among the reviewed evidence, there appears to be mixed findings across national contexts. For example, when the certification process in the Netherlands was evaluated in 2002, the conclusion was that the certification system (at that point in time) was insufficient to produce meaningful incentives for quality improvement. In contrast, an evaluation of an accreditation system for OH services in Norway (Lie & Bjørnstad, 2015) concluded that the accreditation schemes are useful, well received by OH service providers and appear effective. Therefore, to meaningfully understand the impact and practical value of such accreditation or certification schemes requires more detailed and systematic evaluative research.

While many standards and good practice guidelines are evidence-based in their content, there is limited research that has examined their translation and impact (in terms of effectiveness) in practice; and, in turn, how the integration of such voluntary

approaches with enforcement and supervision methods relates to the performance of such systems. These areas of research are viewed as key priority areas for the future.

OH Professionals: Role, Duties and Training

The ILO Convention on OH Services highlights that OH services should be provided by a multidisciplinary team (ideally comprising a physician, nurse, occupational hygienist, ergonomist and psychologist; Rantanen, 2007). Traditionally, OH services have been delivered primarily by a small, 'core' group of key professionals (i.e. an OP, a nurse and (sometimes) an industrial hygienist; WHO, 2002). The case study review observed that this 'core' group of key professionals continue to be the central OH professionals involved in the delivery of OH services across reviewed OH systems.

There are increasing calls for the need and importance of multidisciplinary teams of OH professionals involved in the delivery of preventative and curative OH care. This service characteristic is highlighted within the ILO OH service Convention. In general, there appears to be a limited number of countries that have explicit requirements of OH services to be delivered by a multidisciplinary team of OH professionals. Some national examples where such requirements exist include: The Netherlands, Finland, France and Germany. In general, it appears that the medical professionals (in particular, OPs, physicians and (OH) nurses) continue to remain core professionals central to the delivery of OH services. As the landscape of occupational diseases and chronic illness and aliments changes for workers (e.g. increasing prevalence of mental health issues), and the content and context of work changes (resulting in new and emerging risks; e.g. teleworking) this will require a wider set of OH professionals (such as, work psychologists, counsellors, ergonomists, work ability co-ordinators) to provide comprehensive and targeted care for those accessing such services.

The ILO Convention on OH Services highlights that OH service personnel should enjoy full professional independence from employers, workers, and their representatives. For example, in France, Occupational Physician (OP) employment contracts are protected by law to ensure their professional independence. In Japan, employers must respect and implement the recommendations provided by the OP. While interesting examples exist on how professional independence is achieved through some countries, there are no identified examples of where or how such levels of protection are extended to OH professionals beyond OPs. Therefore, considering how professional independence can be achieved across a multidisciplinary team of OH professionals should be viewed as a key priority across many national contexts.

The role of OPs is quite diverse across countries. In some national contexts, their role is strongly focused on prevention and health promotion activities (e.g. Finland and Japan), while in others it is particularly focused on supporting rehabilitative and curative activities (see Table 9 for overview). Across many reviewed countries, OP roles and duties were (in part) determined/defined by the legal framework in that given country (e.g. Japan, France, the Netherlands).

In many countries, there exists a shortage of OPs. Therefore, considering ways in which to encourage a larger number of individuals to train and practice in this field of medicine is crucial in maintaining the national-level OH system. Finland provides an interesting example. The Finnish government provides training benefits for specialist

training in occupational medicine. This financial benefit is paid to those institutions providing training and education for such professionals, including Universities, the Finnish Institute of Occupational Health (FIOH), and private providers of OH services. By the end of 2015, OH care was the second largest specialism in terms of the number of doctors in training, and the fourth largest in terms of specialists.

Specialist and continuous training for medical education is well organised across many of the reviewed countries for OPs. However, among other OH professionals training and certification requirements to practice have not received the same level of national attention (Husman & Husman, 2005). This review found that, outside OPs, other OH professionals (e.g. OH nurses) do not have the same level of clearly specified criteria surrounding training, professional certification, and professional and career development. Therefore, one area of further research would be to clearly identify the OH professionals that are central to the delivery of (effective and multidisciplinary) OH services, accompanied by an audit of current training and certification systems (if any) and specification of key competencies in this field.

In many countries, GPs play a central role in OH care and management. In the UK, Australia and Canada GPs play a key and explicit role in certifying sickness absence and fitness for work, more so than in other countries, where OH professionals with a closer link to the workplace are often more involved. As GPs are external to the work environment, one of the key challenges they face is providing tailored guidance and support to workers based on and informed by the risks encountered at work, and the resources available to support the provision of necessary or recommended adjustments to individuals' work/workplace. Therefore, a question for many national contexts is how can GPs support work outcomes and OH systems/ provisions, without becoming a replacement for such provisions? As seen in the case studies reviewed, this would work best where there are multidisciplinary systems involving various OH professionals which aim for a comprehensive preventive approach, coupled with incentives at the employer level to support both prevention and timely return to work.

The Role of Employers

Across the case studies, some countries require employers to organise OH services, whilst other do not. In all reviewed countries, there are key prevention activities that employers must conduct (e.g. identifying, monitoring and managing/ ameliorating occupational risks) to ensure the health and safety of their employees. These requirements are typically, but not always, enshrined under health and safety legislation. Such prevention activities tend to fall under employers' 'duty of care' responsibility for their employees' physical and mental health. Across all reviewed countries, the growing prevalence and concern regarding mental health conditions at work was observed. The review observed a number of interesting and recent examples of policy-level work aimed at supporting employers in addressing and managing mental health issues and challenges.

For example:

- The auditable National Standard of Canada for Psychological Health and Safety in the Workplace is the first of its kind in the world. It is a set of voluntary guidelines, tools and resources intended to guide organisations in promoting mental health and preventing psychological harm at work.

- In the UK, the British Standards Institution have developed a guidance standard on the management and prevention of work-related psychosocial risks in the form of a publicly available specification, PAS1010.
- In Australia national guidance for employers that describes a systematic approach to preventing and managing the mental health of employees was recently published (Safe Work Australia, 2019).
- In Japan, employers need to write a mental health promotion plan for their organisation.
- Employer–focused guidance (Australia) or toolkits (e.g. UK, Ireland, Italy and USA) are available on how they can meet their duties of care in relation to the prevention of work-related stress and protection of the mental health of workers.

Across all reviewed countries, the employer has a role and responsibilities associated with the need to make reasonable adjustments for ill, injured or disabled workers. Examples of initiatives to support employer-led action were identified across many of the reviewed case studies. Such initiatives were typically the use of advice networks or information services for employers (typically free of charge). Those countries with workers' compensation schemes typically provide tools and resources for employers. Financial incentives were used across a number of countries to encourage and support employer-led action (e.g. decreasing insurance premium rates, disability premium discounts, governmental grants, or removing employer responsibilities surrounding sick pay). There exists a dearth of systemic research examining the impact of such services and systems.

Employers' responsibilities and obligations surrounding the provision of rehabilitation or engagement in the return to work process was more diverse across the reviewed countries. With some countries (e.g. the Netherlands, Germany and Finland) stating clear roles and responsibilities of employers; particularly, in terms of their involvement in supporting the return to work process (e.g. the Gatekeeper Protocol, the Netherlands; Workforce reintegration programme, Germany; and the 30-60-90-day protocol in Finland). The available evaluative impact of such schemes has yielded positive results. There are many examples of methods used to encourage and support employers in supporting employees in their return to work through tools and advice (e.g. regional expert advice centres, Germany; National Institute of Occupational Health and Safety's free advice, USA) and use of financial incentives (e.g. lower premium rates, Canada; employee retention grant, Republic of Ireland).

Short Case Studies

Italy

Key Features

- Italy is recognised as the birthplace of modern occupational medicine.
- OH service provision is specified by law. Under Italian law, all public and private sector employers must provide access to OH services for all employees.
- OH services are integrated with primary healthcare. Each regional health authority provides an OH service.
- Occupational medicine is an established academic and professional discipline.
- The roles of employers, OPs and workers are defined by law.

National Context

The population of Italy, in 2019, was 60.36 million (Istituto Nazionale di Statistica; Istat, 2019). The Italian economy is the eighth largest in the world but challenged by the world's third-highest public debt (International Monetary Fund, 2018). The labour market security of Italian workers is the fourth lowest among OECD countries, likely due to the growing number of short-term contracts and the national unemployment rate (11.2%; OECD, 2018a). In recent years there has been a growing number of foreign workers, constituting 4.3% of the workforce in 2004 to 10.3% in 2014 (Boschetto, De Rosa, Marini & Salvatore, 2017; Istat, 2015). Nearly 2.3 million (5.4% of the workforce in 2013, down from 6.9% in 2007) reported health problems caused or aggravated by work (Istas, 2014). In 2013, over half of workers with a reported health problem complained of a musculoskeletal complaint (59%), and over a tenth reported stress, depression and anxiety (11.9%; Istas, 2014). No information is available on the overall absence at work in Italy, because of the fragmentation of administrative sources. However, a study investigating the causes of absence observed that infectious diseases, respiratory diseases, musculoskeletal disorders, trauma, poisoning and scalds led to more than 70% of total sick leave (Barbini, Beretta, Minnucci & Andreani, 2006).

The following are the key defining features of the OH service model in Italy:

- The provision of OH services is specified by law in Italy and is integrated with primary healthcare.
- Italy has a National Health Service, which provides universal coverage; with public healthcare free of charge at the point of service.
- The Italian Social Security system provides for any person who is injured, ill or disabled with adequate welfare support (Campagna et al., 2013; De Matteis, Accardo & Mammone, 2001), including both sickness benefits and disability pensions.

- Italian employers have a number of obligations, which also includes the provision of sick pay and providing their employees (when ill, injured or disabled) with the necessary accommodations to their work and work environment.

Legal & Policy Context

Italy is recognised as the birthplace of modern occupational medicine, with Italian physician Bernardino Ramazzini widely acknowledged as its "founding father" (Franco & Franco, 2001). Italy has not ratified any of the three key ILO conventions, which directly (Convention on OH Services, No. 161) or indirectly (The Occupational Safety and Health Convention, No. 155; and Promotional Framework for Occupational Health and Safety, No. 187) support the provision of OH services and care. However, in Italy, OH service provision is specified by law. More specifically, all public and private sector employers must provide access to OH services for all employees; and the national healthcare system provides workers with basic OH services, typically through regional health authorities. The organisation of OH Services is governed by *Decree No. 81/2008 on Health & Safety at Work* (modified by Legislative Decree No 106/2009) and *Decree 38/2000* on the list of recognised occupational diseases and occupational disease insurance. The aim of this section is to provide a brief overview of key legal documents and the wider policy context in Italy.

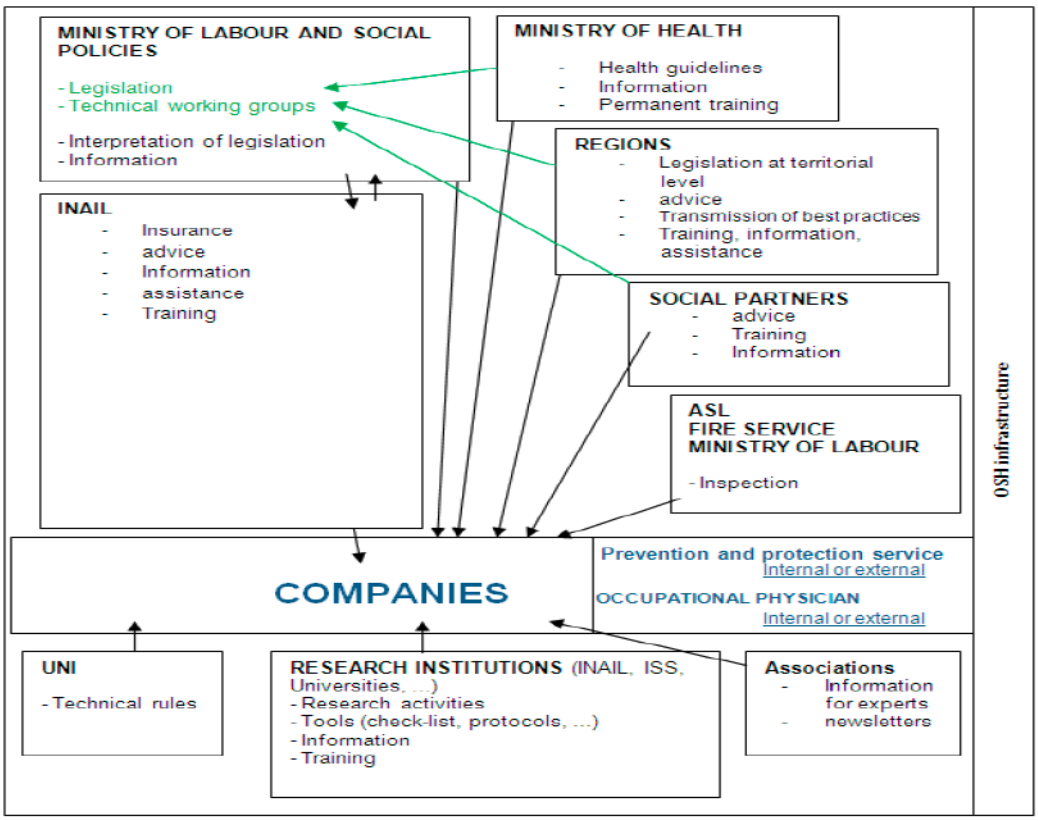
Decree No. 81/2008 (modified by Decree No 106/2009) outlines the obligations of employers and employees in relation to OH provisions and required services. This Decree harmonised the outlined provisions across preceding regulations, and sought to regulate the shared competences between the Italian state and regions (ILO, 2015) in managing and protecting the occupational health of the working population. There are several notable novel aspects to this regulation (Campagna et al., 2013). Some examples include:

- Unification of legislation into a single text.
- Increase in formal and substantial obligations, specific forms for documents (e.g. task analysis) and techniques for industrial hygiene surveillance.
- Tightening of fines and sanctions for lack of compliance.
- Definition of clear employer responsibilities (see section on employer's role).
- Confirmation and clarification of the role of the occupational physician in the risk assessment process, with criminal sanctions for lack of compliance.
- Mandatory compliance with good medical, technical practices and professional ethics for OH professionals.
- Inclusion of work-related stress in routine legally required risk assessment procedures.

OH systems and services are broadly embedded within the broader health and safety legal framework within this national context. Particularly, through the key legal document in this area: *Legislative Decree no. 151/2015.* As stipulated by Legislative Decree no. 151/2015, the institutional system of occupational health and safety at work (see Figure 2) comes under the Ministries of Labour and Social Policy and Health, in conjunction with the Regional Coordination Committees and social partners

(including, the Permanent Consultative Committee for Health and Safety at Work). Their collective responsibilities include delivering advice for legislative developments, supervision, promoting health and assisting businesses.

Figure 2. National-level system for health and safety at work in Italy (Grosso & Papale, 2018)



The Italian National Information System for Prevention in the Workplace (*SNIP*) is charged with guiding, planning and evaluating the effectiveness of prevention against occupational diseases. The SNIP in the Workplace broadly includes as key members: The Ministries of Labour and Social Policy, Health, and Interior; regions and autonomous provinces of Trento and Bolzano; National Institute for Insurance against Accidents at Work (INAIL). Significant contributions to the National Information System for Prevention in the Workplace may also be made by the National Council for Economics and Labour, and various sector-specific joint bodies and institutions (ILO, 2015).

As stated previously, all public and private sector employers must provide access to OH services (termed prevention and protection services; see Figure 2) for all employees. This service can be either internal or external to the company, and must be staffed by an OP. The involvement of workers and trade unions in preventive and protection services in Italy has been recognised as the “worker-centred model of occupational medicine”. Although this approach was never evenly developed across Italy, nor evident in terms of statutory provisions for worker representation in the organisation of preventive services; it has no doubt had a profound impact on OH management and prevention strategies in the country (Rigby et al., 1996; Vogel, 2007).

Legislative Decrees number 215/2003 and 216/2003 protect the rights to equal treatment of persons (regardless of racial or ethnic origin) in matters of employment and working conditions. The provisions of Article 15 expanded such rights to include any origin of discrimination, inclusive of disability, sexual orientation, age or personal belief. Besides the mandated financial assistance (which covers the economic losses caused by the inability to work), Decree 1124/1965 includes provisions on healthcare assistance aimed at facilitating the rehabilitation of working capacity and alleviating the consequences of injury or ill-health. Article 86 requires that the National Institute for Insurance against Accidents at Work (INAIL) provides the injured worker with all the necessary medical or surgical treatments (even after the clinical recovery; EU-OSHA, 2016).

Law 190 gives National Institute for Insurance against Accidents at Work (INAIL; see Figure 2) the responsibility for the reintegration of persons with disabilities caused at work, through the implementation of projects that provide: retraining and upskilling; adaptations of work-stations; and the removal of any physical barriers for accessibility and/or usage in the company to allow the maintenance of the worker in the job or identification of a new position (EU-OSHA, 2016). INAIL verifies compliance with the regular payment of insurance contributions for workers' compensation, and health and safety legislation (Campagna et al., 2013).

Healthcare & Social Security

Healthcare in Italy is provided to anyone with a mixed public and private system. Italian law recognises health as a fundamental right of individuals, and anyone residing in Italy is entitled to a form of healthcare (Article 32 of the Italian Constitution; Campagna et al., 2013; De Matteis, Accardo & Mammone, 2001). Their National Health Service is regionally based, but organised at the national, regional, and local levels. It provides universal coverage, with public healthcare free of charge at the point of service. Regions, consisting of a number of regional health authorities, enjoy significant autonomy in determining the macro structure of their health systems (Donatini, 2017). *Each regional health authority provides an OH service.*

Article 38 of the Italian Constitution outlines social insurance measures for old age, illness, invalidity, industrial diseases and accidents. Consequently, such regulations establish the rights of any person who is injured, ill or disabled to receive welfare support (Campagna et al., 2013; De Matteis, Accardo & Mammone, 2001). More specifically, Italian legislation requires that all individuals (both private and public sector employees and the self-employed) are covered by social security insurance through the General Compulsory Insurance Scheme (European Commission, 2013). The National Institute for Social Security insures almost all employees of the private and public sectors. Its main activities include providing payment of various types of contributory (i.e. based on the contributions paid by the workers) and non-contributory pensions and benefits. Benefits include both income and family support measures (e.g. unemployment, disease, maternity, family allowances, etc.).

National Institute for Insurance against Accidents at Work (INAIL) is the Italian Workers' Compensation Authority, and is funded by the contributions of employers. In particular, it provides temporary benefits, permanent pensions (in case of permanent disability) and death grants (EU-OSHA, 2016). In cases of illness, the employee receives compensation, where access to such provisions is established by law and collective bargaining agreements.

Sickness allowance is paid in the event of a serious illness (subject to a doctor's note) from the fourth day of absence (the first three days are not covered, except in the case of relapses), and is paid for a maximum of 180 days per calendar year. Different criteria apply in the case of workers on fixed-term contracts. Except for certain categories of employees, the benefit is paid directly by the employer and deducted from the amounts payable to the National Institute for Society Security as insurance contributions. The allowance is generally equal to 50% of the person's pay for the first twenty days of illness, rising to 66.66% thereafter. The employee requires a medical certificate, which is issued by a GP and sent directly to the National Institute for Society Security. Once the sickness benefit expires, unpaid sick leave is provided under the scope of the National Collective Labour Agreement, regulating each category of workers. This system is aimed at avoiding dismissal, but rules differ greatly according to the workers' category (Spasova, Bouget & Vanhercke, 2016).

Under Italy's labour law, employees are entitled to paid leave of three working days per year in the event of a serious illness (subject to a doctor's notice). More specifically, the employer must pay 100% of the employee's salary from the first day of medically certified sickness absence from work, followed by 60% for the following two days. From the fifth day of sickness absence, the Italian Workers' Compensation Authority (INAIL) has to pay 60% of the daily salary of the worker until the 90th day of leave. From the 91st day until clinical recovery, the payment bonus increases by 75%. The employee loses the right to the Italian Workers' Compensation Authority (INAIL) payment bonus after three years and 150 days from the day on which the accident or the disease occurred (EU-OSHA, 2016).

All insured workers, whose working capacity is permanently reduced by more than two thirds and who have accrued five years of contributions, may qualify for a disability allowance (European Commission, 2013). The disability pension is an economic service, delivered on demand, in favour of workers for whom an absolute and permanent inability to perform any work is assessed (EU-OSHA, 2016). Italy is among the OECD countries that are mostly focused on compensation-oriented disability policies, rather than focusing on reintegration into society and the labour market (OECD, 2010).

Occupational Health Service Model

The OH service model in Italy is specified by law, and the system is characterised by two methods of delivery. First, all public and private sector employers must provide access to OH services for all employees through the provision of a workplace "prevention and protection service". This service can be internal or external to the company. See "Employers' role" for more details.

Second, the national healthcare system provides workers with basic OH services, typically through regional health authorities. Each regional health authority is also tasked (beyond the provision of OH services) with enforcing the application of the Italian OSH law locally and sanctioning violations within their region. The OH services are coordinated at the regional level by committees, and nationally by the Ministry of Health committee for surveillance of OSH activities (Campagna et al., 2013).

These regional OH service units offer a combination of medical surveillance, occupational and environmental hygiene, risk assessment and enforcement activity. They are unique, both with regard to this combination of offering services and the

regional authority control under which they fall. The spread and coverage of such units across the country as a whole is notably uneven, however. Several legislative reforms (e.g. Law 502/92 and 517/93) have aimed at rationalising their structure to create a more balanced regional provision (Rigby et al., 1996).

Currently, over 80% of the Italian workforce is covered by OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017), which is to a large extent due to the integration of such services with primary healthcare through the regional health authorities. This model of service is supported by several key professionals, with a particularly active role of the OP (see next section for more details). The following section will discuss the role, remit and accreditation standards for such professionals nationally.

Occupational Health Service Staffing

In general, physicians are central to the delivery of this national-system. OH services are delivered by either a certified-OP or by a general physician who has additional training in occupational medicine. These physicians may be supported by OH nurses and a health visitor. Other OH professionals may be recruited to provide specialist support when required. This section aims to provide a cursory level overview of key players and outline their roles and responsibilities therein.

OPs may work in public healthcare centres, private OH centres or in private practice. In Italy, employers and companies can engage freelance OP or enter into a contract with a private occupational health centre. Approximately 10,000 OPs provide health surveillance to private and public sector companies and trades across Italy. Most OPs are self-employed consultants and must be nationally registered. Schools of Medicine in Italy teach Occupational Medicine as a separate, mandatory subject.

OPs cooperate with the employer in providing general advice, as well as signing the legally mandated company risk assessment. Their professional remit also includes: providing advice on personal protective equipment and other measures to protect workers' safety and health; advice on managing and preventing workplace risk factors; organising first aid; and implementing health promotion programmes (Campagna et al., 2013). OPs must inspect the workplace at least once a year, or with a tighter time schedule based on the legally mandated company risk assessment. A report of this annual inspection must be drafted and exhibited in case the OH service is formally inspected. Management of long-term sickness absence and return to work are also among the OP's tasks, but only in terms of assessing work capacity for the specific job.

In order to be certified as and practice as an OP, medical graduates must undergo a 5-year postgraduate training course that consists of: practical and theoretical training in the healthcare of workers; risk assessment and management; industrial hygiene; epidemiology and statistics; industrial toxicology; and health promotion. At the end of this postgraduate training period, trainee physicians must present and discuss a scientific thesis. In compliance with laws 502/1992 and 229/1999, OPs must complete their Continuing Medical Education (Credits System) obligations in order to be enrolled on the national register of occupational physicians. The professional association for OPs nationally is the Italian Society of Occupational Medicine and Industrial Hygiene.

Italy, however, has few OH nurses. In Italy, the role of nurses in OH is almost always accessory in the implementation of health surveillance and workers' health education. D'Orso et al. (2017) highlights the need for the training curricula of the Nursing Degree and of the Post-graduate degree in Nursing in Italy to give more space to for teaching specific OH skills, which currently is minimal (D'Orso et al., 2017). Consequently, the need for specific post-graduate training courses for nurses wanting to specialise in the field of OH is a national-level priority (D'Orso et al, 2017).

Some health advisors and health visitors work with the OP, offering specific skills in health promotion, health surveillance and vaccination programmes, planning and management, data collection and analysis. In the past few years the number of health advisors employed in the OH services has increased, particularly in northern Italy (Campagna et al., 2013).

Sickness absence is directly managed by the GP, and their certification is subject to verification by local authorities. For long spells of absence for work (≥ 60 continuous days), it is mandatory (Legislative Decree No. 81/2008) to check the individual's suitability to work by way of a medical examination. Such an examination is required, by law, to be carried out by a "competent doctor" (understood to mean an OP). Following medical assessment, the issued statement on the worker's suitability (temporary or partial) to undertake work or a specific task is outlined. The result of the assessment is expressed in writing, with a recommended timeframe for the employee who is off sick to begin their transition back to work (whether that be immediate or a phase process) and the required adjustments to support this process in the case of temporary disability. Both the employer and the employee are notified of the results of this assessment and the recommendation.

Employers' Role

The employer is legally responsible for exercising a duty of care for their employees, and as such must meet a number of obligations. Both private and public sector employers must provide their employees with access to a health and safety "prevention and protection" workplace service. This service includes the employer themselves or a designated health and safety manager, the OP, and one or more worker delegates as the workers' health and safety representative. It may be provided in-house or externally. As previously stated, Italian employers and companies can engage freelance OP or enter into a contract with a private OH center.

Employers' obligations regarding OH care broadly include (Campagna et al., 2013):

- managing and preventing work-related stress;
- appointing an OP, and ensuring the necessary conditions for them to perform their required tasks and maintain professional autonomy;
- providing access to a health and safety 'prevention and promotion service' at the workplace-level;
- informing, educating and training workers about risks in the workplace;
- requesting and checking workers' compliance with corporate health (and safety) rules; and
- ensuring the use, and good state of collective and personal protective equipment.

The employer is required to provide sick pay (as discussed previously) and any work adjustments, where necessary. More specially, following an individual's return from sick leave, the employer is required to assign the employee, where possible, to an equivalent position or, if this is not possible, to a lower level position while ensuring the original pay (Legislative Decree No. 81/2008; EU-OSHA, 2016). Employers are required to make reasonable adjustments in the workplace for employees with either temporary or permanent disabilities or impairments (Decree 81/2008). Article 41 of Decree 81/2008 require employers to provide health examinations prior to the return to work, following an absence of more than sixty days for health reasons, in order to assess the fitness or unfitness for the relevant tasks (EU-OSHA, 2016). The law (Law no. 68/1999) requires private and public sector employers with more than 15 employees to employ a quota of workers with disabilities. Employers complying with the Law have access to financial incentives and technical support (EU-OSHA, 2016), and those that do not run risk of incurring a fine.

Performance outcomes

Despite the effect of the 2008 financial crisis on the quality of work in Italy, the rate of accidents at work (excluding commuting accidents) fell by 36% from 2007 to 2012 (INAIL, 2014). Examining the broader national context, the downward trend on occupational safety and health indicators can be attributed to the reforms of the regulatory framework. The available evidence can be considered at National Endowment for Science, Technology and the Arts (NESTA) 2 standard (Puttick & Ludlow, 2013), since we can observe a downward trend but not establish direct causality.

Employees are paid their normal salary up to 180 days of sick leave, excluding hospitalisation days. After this period, their employment contracts can be terminated. Employees on sick leave must remain at the address that they report in their sick note for four hours a day: between 10.00–12.00 and 17.00–19.00. This is in case an INPS (Istituto Nazionale Previdenza Sociale) official or the employer requests a medical examination.

Decree 133/08 tightened the rules for public employees. This policy reform required the compulsory availability for a medical examination to be extended from four hours a day to the whole day. However, in December 2009 this was reduced to seven hours. Furthermore, a €20 deduction for each day of sick leave was introduced (Giaccone, 2010). Sick leave in public administration declined by almost 42% following these policy reforms. However, the trade unions claim that employees went to work while sick, or with a doctor's note certifying some temporary limitations in carrying out their duty (Giaccone, 2010). A study of Italian public sector employees also found that since the implementation of the new regulation, the probability of employees being absent diminished, with the greatest reduction observed among employees' who suffered higher earning losses (Paola, Scoppa & Pupo, 2014).

Recent evidence has also highlighted an improvement in the management of work-related stress by Italian organisations, following the implementation of Decree 81/2008 and published guidelines by the Permanent Consultative Committee for Health and Safety at Work. Based on these guidelines, INAIL developed a complementary methodology for the assessment and management of risks associated with work-related stress. The results of this collective national-level initiative saw more than double the number of employers reporting having a

procedure in place to manage work-related stress in 2014 as compared to 2009. Furthermore, more than triple the number of employers reported having a procedure in place to manage bullying and work-related violence (Di Tecco et al., 2017).

Poland

Key Features

- The provision of OH services is specified by law.
- OH services are delivered nationally through a mixed system of delivery: *Work Safety and Hygiene Services,* organised and funded by the employer under free market conditions; and the *Occupational Medicine Service*, organised and funded by Ministry of Health.
- An OP is central to the national OH service system, often being a decision maker and not an advisor.
- There is estimated near comprehensive coverage for most workers.

National Context

Poland has a population of approximately 38.5 million and is one of the fastest developing EU countries (EURES – The European Jobs Network, 2017). According to the Polish Labour Force Survey, a gradual rise in the number of employed persons and, simultaneously, a decline in unemployment has been observed in recent years. However, regional disparities remain in such employment and unemployment indictors (Statistics Poland, 2018a). Infectious and parasitic diseases, and much less frequently, pneumoconioses[17] are the most diagnosed occupational diseases (Statistics Poland, 2018a). In 2018, the number of diagnosed occupational diseases amounted to 2022 [IMP data], which is an increase compared to the previous year, when the number of these diseases amounted to 1942. The Social Insurance Institution (ZUS, 2019) expenses on pensions for inability to work due to an accident at work or occupational disease in 2018 amounted to 3.966 million PLN. The provision of OH services is specified by law in Poland. These provisions are provided through a mixed system of delivery, which includes both state and market-driven services. Poland has a mixed healthcare system, providing both public and private services (Sagan et al., 2011). The Polish social security system covers all people in active employment (employees, self-employed and farmers) by mandatory insurance providing financial support for both sick leave and also disability pensions.

Legal & Policy Context

The organisation of OH Services is governed by *Act No. 593 on Occupational Health Services* and *Occupational Medical Service Act, 1997.* Poland ratified the ILO convention (No 161) in 2004 on Occupational Health Services, but not the Occupational Safety and Health Convention (1981; No. 155) or Promotional Framework for Occupational Safety and Health (No 187). The current section aims to provide an overview of key legal documents and cursory-level overview of the broader policy context.

[17] Pneumoconioses are a group of interstitial lung diseases caused by the inhalation of certain dusts and the lung tissue's reaction to the dust. The principal cause of the pneumoconioses is work-place exposure; environmental exposures have rarely given rise to these diseases (Centre for Disease Control, 2011)

The Constitution of the Republic of Poland and the Labour Code form the basis of the legal framework for safety and health at work in Poland (Polish Central Institute for Labour Protection- National Research Institute, n.d.a). The Constitution guarantees citizens the right to safe and healthy working conditions, while the Labour code specifies the manner of enforcement of such rights. Laws regulating the supervision and control of working conditions can be found in several legal acts on labour inspection (ILO, 2016), including, the Act of 13 April 2007 on National Labour Inspectorate (Dz.U. 2007 Nr 89 poz. 589).

The rights and duties of the workers and employers, as well as the working conditions for workers, are regulated by the Labour Code and relevant implementing rules. Its provisions establish measures for breaches of safety and health regulations, define safe working conditions, and set out workplace monitoring rules and surveillance procedures for occupational accidents and diseases (including the respective employee compensation system). This is regulated by the Act on Social Insurance for Accidents at Work and Occupational Disease.

The Labour Code outlines the duties of employers, as well as employees, in relation to health and safety at work (ILO, 2016). Poland also has specific laws that mandate OH service, these include (Pecillo, 2018): Act No. 593 of 27 June 1997 on Occupational Health Services; and the Regulation of the Minister of Health and Social Welfare of 30 May 1996 on carrying out medical check-ups for employees, the scope of preventive healthcare for employees and issue of medical certification for spells of absence from work.

Following the implementation of the OH Services Act (No. 593 of 27 June 1997), the OH service was divided into two separate services:

- First, the *Work Safety and Hygiene Service* where the creation and financing of this service is the responsibility of the employer, as is their duty to ensure that their employees work in a safe and healthy environment.
- Second, the *Occupational Medicine Service*, where the responsibility for its creation lies with the Minister of Health. It operates independently.

Together these two services are collectively responsible for ensuring the safety, hygiene and healthiness of Polish workers and their work environments.

The employers are also required to ensure that their employees undergo health examinations carried out by the state-run Occupational Medicine Service (Jankauskas, Eičinaitė-Lingienė & Kartunavičiūtė, 2012). The OH Services Act requires Occupational Medicine Service to liaise with several partners including:

- Employers and their organisations, to support the recognition and assessment of occupational hazards and co-initiate actions directed at guarding employees' health;
- Employees and their representatives (trade unions in particular);
- Primary care physicians (e.g. GPs) attending to the workers, to support the analyses of employees' health statuses.
- The Social Insurance Fund, The Agricultural Social Insurance Fund, Governmental Commissioner for the Disabled, Disability Certification Units, the National Health Fund;

- The National Labour Inspectorate, The National Sanitary Inspectorate and other authorities eligible to oversee the working conditions;
- The scientific-research institutes, academic units or any other research entities whose activities serve the working population.

In 2007, the Council of Ministers adopted the National Programme for the improvement of workers' health and working conditions. Phase IV ran from 2017 to 2019. The main objective of the Programme is to develop innovative technical and organisational solutions, aimed at reducing the number of workers exposed to hazards; as well as preventing work-related accidents, occupational diseases and their socio-economic consequences. Currently, Phase V of the National Programme is running (2020-2022). This phase is focused on the improvement of safety and working conditions, and is currently being implemented and coordinated by the Central Institute for Labour Protection-National Research Institute. Since the implementation of this national programme in 2008 (Phases I, II, III and IV), the programme has been effective in creating working conditions that protect the life and health of workers (Polish Central Institute for Labour Protection- National Research Institute, n.d.b).

Healthcare & Social Security

Poland has a mixed healthcare system, which is both publicly and privately funded. The healthcare system in Poland is based on an insurance model. The main source of financing for the system is health insurance in the National Health Fund (Narodowy Fundusz Zdrowia – NFZ). Employees are charged a mandatory insurance premium of 9% of their personal income, which is paid to the health insurance institution (NFZ). Some highly specialised services are financed directly from the budget of the Ministry of Health, and not from the NFZ. Healthcare services in Poland are supervised and controlled by the Ministry of Health and local governments. The use of private healthcare facilities and provisions nationally is on the rise (Sagan et al., 2011).

The Polish social security system covers all people in active employment (employees, self-employed and farmers) by mandatory insurance. The Polish Social Insurance Institute, and its regional services, are responsible for sickness and maternity cash benefits and pensions for retirement, invalidity, survivors (widowed spouse), employment injuries and occupational diseases (European Commission, 2013). Contributions are the main source of financing for such benefits. While contributions to sickness insurance are financed in full by the insured people themselves, contributions to accident insurance and the labour fund are financed in full by employers. Employees' contributions are determined on the basis of income from employment, as defined in the provisions on personal income tax. The State Fund for the Rehabilitation of Disabled Persons supports disabled persons' access to employment and rehabilitation. All rehabilitation and employment programmes (including sheltered work) are financed from levies on employers not meeting the disability quota (European Commission, 2013). Sickness insurance provides cash benefits if an insured person, or a member of their family, becomes ill or falls pregnant. These broadly include sickness allowance, rehabilitation allowance, and compensation allowance.

Polish employers must pay *sick pay*. For the first 33 days of sick leave, employees continue to be paid by their employer, following which the sickness allowance is paid by the Polish Social Insurance Institute. The sickness allowance is payable to any insured person who becomes ill from the 34th day of illness (or from the 15th day if the employee has reached 50 years of age). The allowance is due for each day they are unable to work, including legal holidays. The sickness allowance is granted on the basis of medical certification certified by a doctor. Sickness allowance is paid at 80% of a person's monthly wage and 70% of a person's monthly wage for the period of hospitalization. However, where the inability to work is caused by an accident at or to or from work, an occupational disease (as well as during pregnancy) sickness allowance covers 100% of a person's monthly wage (Spasova, Bouget & Vanhercke, 2016). Employees are required to submit their sick leave certificate to the employer no later than 7 days after the date of issue – otherwise the allowance is reduced by 25%. The sickness allowance can be paid for a period of up to 182 days, or 270 days if the incapacity to work is caused by tuberculosis or occurs during pregnancy.

Rehabilitation allowance is granted to insured people whose eligibility for the sickness allowance has run out, but whose inability to work continues. It may be granted to such people for the time they need to recover the ability to work, up to a maximum of 12 months. The decision on granting the rehabilitation allowance is made by the Polish Social Insurance Institute, based on an assessment by one of their authorised physicians. Where the inability to work is caused by an accident at work or by an occupational disease, the rehabilitation allowance covers 100% of a person's monthly wage. *Compensation allowance* is paid only to insured people who are employed, and people whose monthly pay has been reduced because they are undergoing job retraining. The need for such training is evaluated by the Occupational Medical Service for the region concerned, or by a Social Insurance Institute-certified physician (European Commission, 2013).

Occupational Health Service Model

OH care has a long tradition in Poland (Dawydzik, 2001). The national OH service context is characterised by service provision that is specified by law within a mixed system of delivery, including state provision, and some market-driven provision. All workers have access to OH services, resulting in near comprehensive coverage (Rantanen & Kim, 2012).

The Occupational Medicine Service operates within a two-level structure, with primary OM centres and regional centres of occupational medicine. *Primary OM centres* can have various organisational structures. First, physicians with appropriate qualifications can either accept employment in a healthcare institution that provides such services, or they can run their own practice. Healthcare institutions (whether public or private) – including those established by employers with the aim to provide preventive healthcare at a workplace – are also classified as primary centres. The typical content of such services includes:

- advise and support in accident prevention and safety,
- surveillance of workers' health,
- work ability assessment and promotion,
- contribution to measures of vocational rehabilitation,

- informing and educating employees and employers on OH,
- organising of first aid and emergency treatment,
- pre-employment and periodic health exams, record keeping, conducting examinations enabling early diagnosis, and
- health promotion activities (Jankauskas et al., 2012).

These primary centres undergo evaluation through an accreditation scheme. The accreditation system is built on the system of control and professional supervision adopted by the Occupational Medicine Service. An accredited unit is recommended by the Centre of Occupational Medicine Service Accreditation. Other centres may also operate on the market, but without the Centre's recommendation (Kopias & Wdowik, 2005).

In contrast to the various organisational structures at the primary level, *regional centres* are public healthcare institutions established by a regional self-government. Such centres are responsible for inspecting and monitoring primary centres, as well as providing them with expert advice, supporting them in their activities, and providing post-graduate education (Dawydzik, 2001). In 2017, 6052 basic OM service units were registered (their number dropped by 3.9% compared to 2016; Statistics Poland, 2018).

The Occupational Medicine Service Act (1997) details three funding sources for the national-level system of OH service provision: (i) services funded by employers (i.e., obligatory health check); (ii) self-funded services; and (iii) services financed from the public resources (including, regional authorities and additional public resources provided at the discretion of Ministries of Health or Labour and Social Affairs). The Work Safety and Hygiene Service is funded by the employer; while the state budget funds those that inspect and monitor the provision of such services. The Occupational Medicine Service is financed from two public resources: budgets of the regional authorities (directly fund the activities of the Regional Centres of Occupational Medicine); and additional public resources provided at the discretion of the Ministry of Health and Ministry of Labour and Social Affairs (e.g. for various health and safety prevention programmes; Jankauskas et al., 2012).

Occupational Health Service Staffing

The Occupational Medicine Service is staffed and supported by a number of key professionals, including 4980 physicians, 5408 consultant physicians, 3968 OH nurses, 2627 lab and technical assistants, 1113 other professionals educated to a higher level (including 550 psychologists), and 123 open specialisations in the field of OM reported by the Regional Centres (Jankauskas et al., 2012). The activities of the Occupational Medicine Service are carried out either by physicians hired by companies or, in most cases, by external occupational medicine practitioners. In most cases the services are provided by external OH practitioners and most of the activity is to carry out pre-employment and periodic health examinations (which are stipulated by law); as well as ergonomic analysis of workplaces, and drug and alcohol testing. Health examinations are also done periodically during the course of employment in order to assess an individual's fitness to work (Rantanen & Kim, 2012).

In Poland, the OM Services Act of 1997 entitles the Occupational Medicine Service to provide out-patient rehabilitation in cases of justified occupational pathologies. According to Statistics Poland (2018), in 2017, 13 800 people were covered by ambulatory medical rehabilitation (6.3% less than in the previous year) and 361 000 procedures were performed (6.6% more than in 2016). Overall, an upward trend in both the number of people utilising the services and the number of interventions conducted has been observed since 2007 (Jankauskas et al., 2012).

There is no definition of an OH professional in Poland. OH services comprise of different vocations, such as OP, OH nurse, industrial hygienist, psychologist, psychotherapist, ergonomist, public health specialist, general physician, and so on. Qualifications of OH professionals are based on existing legal provisions, but vary depending on vocations. Currently there are three training routes available in Poland to achieve a specialisation in occupational medicine.

- A programme for doctors after post-graduate internship without specialisation: the training programme lasts a total of 60 months (5 years) and includes specialised courses and internships.
- A programme for doctors with first degree specialisation in occupational medicine, internal medicine, aviation medicine, general medicine or second degree specialisation in aviation medicine, general medicine: The specialisation lasts 36 months (3 years), during which the doctor participates in specialised courses and internships.
- A programme for doctors with a second degree specialisation or title of specialist in internal medicine and lasts 36 months.

Nurses' qualification in occupational healthcare may take up to 2 years to complete (Jankauskas et al., 2012). Duties of OH professionals also vary depending on vocations. A survey on recognition of various competences among the OPs showed that they rank the occupational hazards, health promotion and work ability assessments as the most important competence areas in their professional profiles (Puchalski, Korzeniowska & Iwanowicz, 2007).

Employers' Role

The majority of the employers' duties are described in the Labour Code. According to the Labour Code, the employer bears responsibility for the state of work safety and hygiene. Employers are required to ensure that their employees undergo preventive health examinations carried out by the Occupational Medicine Service. Employers are also obliged to put in place and fund a Work Safety and Hygiene Service. The Work Safety and Hygiene Service operates within companies and is, in general, responsible for advising employers on all aspects of work safety, health and hygiene.

The roles and responsibilities of the employer in providing this service are dependent on the size of the organisation. For example, the tasks of this service may be performed by the employer (individually) if: they have completed the necessary training; are a micro- (< 10 employees) or small-sized < 50 employees) company; and the company has been established as low risk (as defined by the provisions of the social insurance for accidents at work and occupational diseases).

- Among employers with up to 100 employees they may entrust the performance of tasks of this service with an employee (working in another area of the company) who fulfils the educational qualification requirements, or with a specialist from outside the company.
- Among employers with more than 100 employees they must set up this service by hiring a sufficient number of employees to support the necessary delivery of this service.
- An employer with between 100 and 600 employees must set up a multi-person or single-person service, or employ a part-time health and safety professional.
- Finally, an employer with more than 600 employees must employ at least 1 full-time health and safety professional for every 600 employees.

The service is regulated by the Work Safety and Hygiene Service Ordinance of 1997 and supervised by the Ministry of Labour and Social Affairs (Kopias, Sakowski & Dobras, 2015).

The employer pays the employee a sickness benefit for the period of their inability to work, lasting up to 33 days in total during a calendar year. In the case of an employee over 50 years of age, the sickness benefit is paid for up to 14 days in total during a year. Employers also have responsibilities in relation to work adjustments and vocational rehabilitation. Employers are required to provide employees with a disability or impairment the right to special breaks to complete rehabilitation exercises. They must also ensure workplace adjustments and access for such workers, including ensuring the necessary modifications and adjustments are in place for employees when they indicate their intention to return to work following injury or ill-health (OECD, 2012).

Performance Outcomes

To evaluate the quality of Polish OH services, Good practice in health, environment and safety management in enterprises (GP HESME[18]) was implemented in selected employers in Łódź (central Poland). The WHO (European Regional Office) and the Nofer Institute of Occupational Medicine (NIOM) initiated implementation and delivered professional consultations, education and training of stakeholders in the NIOM School of Public Health. The implementation of GP HESME in the Lodz region started following a WHO meeting on criteria and indicators, followed by close collaboration of NIOM with the city's Department of Public Health. To conduct the evaluation, the GP HESME program was presented to the identified stakeholder groups and at a number of consultation meetings: two meetings of city officers, several meetings of the Professional Managers' Club (city employers' association), and Labour Inspection meetings with potential stakeholders. Almost all industries and services from the Lodz region were represented at those meetings. The opinions of stakeholders were collected during these meetings and conclusions drawn from such discussions. Results indicated different needs of similar employers, even in the same sector. Employers saw GP HESME as a marketing tool, rather than an assessment

[18] GP HESME is a process that aims at continuous improvement in health, environment and safety performance, involving all stakeholders within and outside the enterprise. The key partners in GP HESME are employers and their organisations, representatives of employees, governmental agencies, local authorities, financial and insurance institutions, occupational health services, environmental and social services, associations of professionals, research and training institutions.

of quality. The GP HESME study found that different methods of accreditation of OH service centres are more often used than approaches such as the GP HESME. This is particularly since Polish OH services differ significantly from that of other countries, as an OP is still the core of the system; often being a decision maker and not an advisor. Therefore, quality assurance methods in Poland are more similar to those used in clinical medicine. Consequently, the accreditation of OH services seems to be the most promising method for providing quality assurance (Michalak, 2002 a & b).

The United States of America

Key Features

- OH service provision is voluntary, outsourced, and market-driven.
- An estimated third of the US workforce is covered by OH services.
- Occupational medicine is an established academic and professional discipline.
- National-level programmes exist to support vocational rehabilitation.

National Context

The population of the United States of America (further referred to as US) was estimated at 326.6 million in 2017 (CIA, 2018), and is the largest economy in the world (2nd largest by Gross Domestic Product (GDP) ppp; International Monetary Fund, 2018). The US has a highly diversified, world-leading industrial sector, and is a high-technology innovator with the second-largest industrial output in the world (Central Intelligence Agency, 2018). Despite this, it offers the lowest employment protection among OECD countries (Venn, 2009).

There are nearly 30 million people with a reported disability in the US, the majority of which (23.8 million) are not part of the workforce (Bureau of Labour Statistics, 2018a). There were approximately 2.9 million nonfatal workplace injuries and illnesses reported by private industry employers in 2016. Nearly one third of these resulted in days away from work, with the median being 8 days. Among public sector workers, there were 752,600 reported cases of non-fatal injuries and illnesses for 2016 (Bureau of Labour Statistics, 2017). However, it is likely that, due to methodological issues in gathering data on injuries and illnesses, the rate of new cases could, in fact, be much higher (e.g. Murray, 2003; Rosenman, 2016). An estimated 6% of American adults aged 18-69 reported they were unable to work due to health problems, and a further 3.3% felt they were able to engage in limited work activity (Centre for Disease Control and Prevention; CDC, 2018). One in ten (10.4%) employed adults took more than six days off work annually due to illness or injury, and a further 13.4% reported between 3-5 days of sickness absence in the past year (CDC, 2018).

The provision of OH services is voluntary within the US; such services are typically outsourced and market driven. Ill or disabled workers may receive primary care through the healthcare system. However, this system is not universally accessible, and is both publicly and privately funded. Consequently, access to health insurance (e.g. as employee benefit or self-funded) is an important criterion to gain access to medical care for many American workers. Injured or ill workers may also receive compensation and access to limited OH services through their jurisdictions' Workers' Compensation Board. However, variations exist across state lines in what conditions are covered by workers' compensation, and what OH services are provided. Social security measures and programmes are a key feature of this national-context. In particular, there exists a number of social security programmes which provide financial support and services (e.g. the Ticket to Work programme). There is no legal requirement for American employers to provide sick pay.

Legal & Policy Context

As stated previously, the provision of OH services is not mandated by law in the US, but some provisions are stipulated across several areas of law (including, health and safety, employment law and workers' compensation). The US has not ratified any of the ILO conventions on OH services (see 'Background' section or Annex A for more information) or, more broadly, workplace health and safety. The current section aims to highlight key legal documents and outline the broader policy context, which has a concentrated focus on workplace health and safety.

In 1970, a national framework for health and safety was adopted in the US: *the Occupational Safety and Health (OSH) Act*. In passing this landmark legislation, Congress developed a two-pronged policy approach. First, to support research concerning the causes of occupational injuries and illnesses; and second, to develop and enforce evidence-based standards aimed to address identified concerns and risks to workers' health. Consequently, the Act created the Occupational Safety and Health Administration (OSHA) to perform the enforcement function, and the National Institute for Occupational Safety and Health (NIOSH) to perform the research function. The OSH Act included provisions for consultative assistance to employers by both OSHA and NIOSH.

The OSH Act states that an employer has a general duty of care to their employees, and they are obliged to comply with all health and safety standards applicable to their sector. High risk sectors (such as construction or mining) have more specific standards. This Act also outlines compliance responsibilities of employers on multi-employer work sites. Workers are required to comply with OSH standards and all rules, regulations and orders issued pursuant to the Act. The Act does not, however, issue penalties against workers, instead it relies upon employers to administer and comply with workplace health and safety rules. There are a number of key legislative documents that relate to OH care and provisions. These are summarised in Table 16.

Table 16. Summary of key legislative documents

Governance Domain	Key Legislative Documents	Comments
OSH legislation	The Occupational Safety and Health (OSH) Act.	Ensures research is carried out concerning the causes of occupational injuries and illnesses, and evidence-based standards to identify and manage risks are developed and enforced. Outlines employers' duty of care to their employees.
Labour Law	The Fair Labor Standards Act	Establishes wage and hour standards for most public and private employers.
	The Family and Medical Leave Act (1993)	Entitles eligible employees of covered employers to take unpaid, job-protected leave for specified family and medical reasons, with continuation of group health insurance coverage under the same terms and conditions as if the employee had not taken leave).
	The Americans with Disabilities Act	Prohibits discrimination against individuals with disabilities in all areas of public life (including jobs) and requires employers to provide reasonable accommodations to employees).
	The Rehabilitation Act of 1973 (as amended)	Prohibits discrimination on the basis of disability in federal agencies, in programs receiving federal financial assistance, in federal employment and in the employment practices of federal contractors.
Workers' Compensation Act	Workers' Compensation Regulations	Protects people who become injured or disabled while working at their jobs, and provides compensation.

The primary focus on OSHA Voluntary Protection Programme and the Healthy Programme initiatives centres primarily on health and safety related-issues, rather than OH care and management more specifically. However, they are interesting examples to consider within this national context.

In the OSHA Voluntary Protection Program, management, workers, and OSHA work collaboratively to prevent fatalities, injuries, and illnesses through a system focused on: hazard prevention and control; worksite analysis; training; and management commitment and worker involvement. To participate, employers must formally apply and be prepared for their worksite to be assessed by a team of health and safety professionals.

The Healthy People Programme provides science-based, national goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts to improve the health of all people in the United States. The current programme is called Healthy People 2020 (Centre for Disease Control, 2017) and seeks to focus on several areas: health and safety at work; mental health and mental disorders; health-related quality of life and well-being; social determinants of health; access to health services; as well as disability and health (Department of Health and Human Services, 2010).

Healthcare & Social Security

The US healthcare system is not a universally accessible system; it is a publicly- and privately-funded patchwork of fragmented systems and programs. Insured individuals are covered by both public and private health insurance, with the majority coved by private insurance plans offered through their employers. Government-funded programs (e.g. Medicaid and Medicare) provide healthcare coverage to some vulnerable groups (e.g. disabled, elderly, pregnant women). However, almost a tenth of Americans remain uninsured (Smith & Medalia, 2015).

Approximately 94% of the US workforce is covered by Social Security (Social Security Administration, 2018). In 2016, Social Security covered 170.8 million workers in employment or self-employment, while in 2017, this increased to about 173 million people. The Social Security Act was enacted in 1935. The Social Security Amendments of 1954 initiated the Disability Insurance program in the US, which has been through several amendments since this time.

The Disability Determination Services, part of the Social Security Administration (SSA), decides whether an individual is disabled under Social Security law. There exist two disability programs that offer cash benefits for disabled individuals: Social Security Disability (SSDI) and Supplemental Security Income (SSI). To meet the eligibility criteria for SSDI, an individual must meet two eligibility criteria. First, their health condition or impairment must meet the medical definition for disability. Second, they must have earned a minimum of 20 social security credits[19] within the last 10 years (ending with the year they become disabled) to be insured (SSA, 2017). After receiving SSDI for two years, a disabled person becomes eligible for Medicare. The needs-based SSI program provisions also exist to support individuals with a disability. The main difference between Social Security Disability (SSDI) and Supplemental Security Income (SSI) is the fact that SSDI is available to workers who

[19] A person can earn up to four work credits per year. The amount of earnings required for a credit increases each year as general wage levels rise

have accumulated a sufficient number of work credits, while SSI disability benefits are available to low-income individuals who have either never worked or who haven't earned enough work credits to qualify for SSDI. An estimated 1 in 8 disabled workers received SSI in 2016 (SSA, 2017). In 2019, almost 156 million employees earned SSDI protection through their payroll tax contributions, and approximately 8.5 million individuals received disabled-worker benefits from SSDI. Payments may also go to some of their family members: 117,000 spouses and 1.5 million children in 2019. In 2018, SSDI benefits total about $144 billion (£113 billion; Centre on Budget and Policy Priorities, 2019).

Disability insurance programmes (SSDI and SSI) pay benefits to disabled individuals and to certain dependents. These benefits include:

- Monthly cash benefits, after a 5-month waiting period, for a disabled worker and eligible family members.
- Medicare benefits, which are available two years after the disabled worker, disabled widow(er), or disabled adult child becomes eligible for benefits.
- Vocational rehabilitation services, which are available for disabled beneficiaries who could return to work if they were provided with some assistance.

Currently, there are no federal legal requirements for employers to pay sick leave. Only companies subject to the Family and Medical Leave Act (enacted in 1993; all public agencies, all public and private elementary and secondary schools, and companies with 50 or more employees) are required to provide paid sick leave. The Family and Medical Leave Act provides for up to 12 weeks of paid leave for certain medical situations for either the employee or a member of the employee's immediate family. In 2015, 61% of workers in private industry had been paid sick leave benefits. Most of the rest received sick leave through a consolidated leave plan, which provides a single amount of time off for workers to use for any purpose. Among those who received a fixed number of sick leave days, the amount varied depending on the employee's length of service and the size of the establishment (Bureau of Labour Statistics, 2016).

Ill or impaired workers may receive cash benefits from their jurisdiction's Workers' Compensation Board or Authority. Each state and the federal government has its own programme. The ill or impaired worker (if their claim is successful) will receive 100% compensation for incurred medical costs, and cash benefits (cash wage replacement benefit) for lost work time after a three to seven-day waiting period.

Cash wage replacement benefits are categorised according to the duration and severity of the worker's disability. For workers who fully recover and return to work the cash wage replacement benefits end, those who do not recover receive permanent total or permanent partial disability benefits. Most states pay weekly benefits for temporary total disability that replace two-thirds of the worker's pre-injury wage (tax free). Compensation can also be paid for temporary partial disability, permanent total disability, and permanent partial disability (SSA, 2018). Workers' compensation programmes are financed almost exclusively by employers. Depending on state laws, employers can purchase insurance from a private carrier or state fund, or they can self-insure. No programme relies on public funds to finance workers' compensation. Common exemptions from coverage are domestic service,

agricultural employment, small employers, and casual labour. The coverage of state and local public employees differs widely from one state programme to another (SSA, 2018).

In 1999, the Ticket to Work and Work Incentives Improvement Act was signed into law to increase the options for individuals with disabilities who wished to return to work. The Ticket to Work and Self Sufficiency (Ticket) programme is a Federally-funded employment programme designed to provide Social Security disability beneficiaries (i.e., individuals receiving Social Security Disability Insurance and/or Supplemental Security Income benefits based on disability) the choices, opportunities and support they need to enter the workforce and maintain employment with the goal of becoming economically self-supporting over time. This program is for Social Security disability beneficiaries (age 18 through 64) who want to work. It is voluntary and connects them to free employment services through certified employment networks[20] that can support their search for a job. Participants in this programme can receive career counselling, vocational rehabilitation, and job training and placement (SSA, 2017). Other sections of the regulations included funding community-based organizations that can provide work incentives and assistance to disability recipients, funding advocacy services for disability recipients and piloting work incentive projects for SSDI recipients. The overall goal of the Ticket to Work program was to transition SSI and SSDI disability recipients off the government rolls and thereby reduce the cost of the disability programs (Mavis, 2017). Such services are intended to increase the self-sufficiency of SSDI and SSI recipients by replacing their cash disability benefits their own work earnings. Ticket holders can use employment networks (offering services such as vocational counselling and job placement) and/ or vocational rehabilitation agencies (offering intensive training, education and rehabilitation along with career counselling, job placement services and benefits counselling), which are compensated by the state for assisting the ticket holder when employment milestones are met or employment is achieved (Mavis, 2017).

Assessing the program's impact and effectiveness has been difficult. However, some reviews have found that the Ticket to Work programme appears to have had a minor yet positive impact in terms of helping people to return to employment and relieve pressure on the SSDI Trust Fund (Eimicke, Cohen & Miller, 2017). An evaluation study found that while relatively few beneficiaries are taking part in the program, those who take advantage of its services had better outcomes and were more likely to leave benefits than those who did not (Thornton, 2012). However, other studies, such as an evaluation by the US Government Accountability Office (Government Accountability Office, 2011), have been more critical of the programme, and highlighted cost and viability issues due to low participation rates and programme costs which are not offset by participants returning to work. This is turn has been due to employment networks not actively supporting ticket holders, and lack of monitoring systems to evaluate benefits of engagement in the programme. There have also been unintended consequences of the ticket to work programme, such as incorrect advice being given to ticket holders which does not encourage them to return to full-time work, and increased competition between vocational rehabilitation agencies. Some have called for reforms such as: employment engagement; early intervention with workforce support; temporary and varying benefits dependent on different disabilities; part-time benefits coupled with work programs; mandatory

[20] Employment networks can be part of the US Department of Labor's public workforce system and may include American Job Centres.

work requirements after temporary benefit terms or continuing disability reviews; and importantly, enhanced administrative capacity and funding at the SSA (Eimicke, Cohen & Miller, 2017). Others conclude that alternative programmes (such as those based on European models, private disability insurance models, reformed SSA models) should be looked at for strengthening efforts to more successfully reintegrate people back into the workforce (Mavis, 2017).

Occupational Health Service Model

The OH service model in the US is voluntary, and primarily outsourced and market-driven, leading to low OH service coverage. Only an estimated 35% of the US workforce is covered by OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017). For many years, the primary delivery point of OH services in the US was on-site facilities at companies or factories that wanted to provide such services to their employees. However, in recent decades there has been a change from the traditional in-house health units to the utilisation of community resources (OH services in hospitals, medical centres or private clinics), or the intermittent assistance of private consultants. Changes in forms of organisation and the nature of work has led to downsizing and widespread restructuring of corporations; and the associated move of manufacturing activities to countries with less-costly labour. These changes have eliminated some of the OH services offered by organisations, have decreased the size of the health unit (whether in-house or at group-level) and also led to the increased use of external consultation (Felton, 2000). Ill or impaired workers also receive support through other avenues with this OH service model: workers' compensation, healthcare system and existing social security programmes (e.g. Ticket to Work programme). The previous section outlined the nature and scope of these provisions.

Occupational Health Service Staffing

Within the US context, healthcare professionals are qualified to design, manage, supervise, and deliver healthcare in occupational settings. However, the legal "scope of practice" is unique within each state. This "scope of practice" broadly refers to the credentials, responsibilities and legally authorised practice of healthcare professionals. Physicians, physician assistants, and registered nurses (including nurse practitioners), receive standardised education with core curricula (individualised to their profession) necessary to pass national or state boards and to be licensed in a particular state. Physicians and registered nurses are then eligible to become certified in a specialty practice, such as OM (physicians and physician assistants) or OH nursing (registered nurses and nurse practitioners), through a combination of additional specific education and experience. The additional educational training in OH includes course work in epidemiology, toxicology, industrial hygiene, recognition and management of occupational illnesses and injuries, research, and general management of a comprehensive OH programme (OSHA, n.d.).

There are three primary professional associations that are relevant to OH management, including the American College of Occupational and Environmental Medicine (ACOEM), the American Association of Occupational Health Nurses, and the American Industrial Hygiene Association. Essential policy guidance in

OH is usually provided by these three professional groups (Felton, 2000). The ACOEM published a list of ten core competencies in the area of occupational and environmental medicine (OEM) in 2014 (Cloeren et al., 2014), namely: clinical OEM; OEM-related law and regulations; environmental health; work fitness and disability management; toxicology; hazard recognition, evaluation, and control; disaster preparedness and emergency management; health and productivity; public health, surveillance, disease prevention; and OEM-related management and administration. In practice, this includes managing employee absences, evaluating work capacity, preventing work disability, assessing fitness for work, advising on appropriate work restrictions, and implementing employee wellness programs (Cloeren et al., 2014).

Employer's Role

The OSH Act mandates that employers: (i) exercise a duty of care for their employees in ensuring their health and safety at work; (ii) prepare and implement written plans to keep employees safe (including emergency action plans); and (iii) require workers be trained to recognise and control hazards to which they may be exposed, and furthermore that such training be documented and effective. Furthermore, employers with more than 10 employees in any given sector are required to record and formally log any work-related illnesses and injuries that require medical treatment beyond first-aid, and to maintain these logs for five years. The remit of such legal obligations are primarily centred on safety provisions and not on the provision of OH services. At best, provisions surrounding OH management may be indirectly required through the duty of care clause (US Department of Labor, n.d).

The Americans with Disabilities Act (ADA) prohibits employers from discriminating against people with disabilities in all employment-related activities, including hiring, pay, benefits, firing and promotions. One of the key aspects of the ADA is that employers are required to provide reasonable adjustments for employees and job seekers with disabilities (US Equal Employment Opportunity Commission, n.d.). Covered employers include private businesses, educational institutions, employment agencies, labour organisations, and state and local government entities with 15 or more employees. Consequently, employers are obliged to provide reasonable adjustments in the case of worker incapacity or impairment, unless this would result in an undue financial hardship (OECD, 2010). There are three key areas, under the ADA, where reasonable adjustments may be required:

- The job application process, so a qualified applicant with a disability can be considered for a position;
- Modifications to the physical work environment, or to the way a job is usually performed, so an individual with a disability can perform the essential functions of that position; and
- Changes that enable an employee with a disability to enjoy equal benefits and privileges of employment like those that are enjoyed by other employees without disabilities. This may include access to cafeterias, lounges, auditoriums and company-provided transportation (US Department of Labour, n.d.c).

The U.S. Department of Labor's Office of Disability Employment Policy does not enforce the ADA. However, it does offer information and resources to educate employers about their responsibilities under the law, and in particular surrounding the provision of work/ workplace adjustments.

A key source for employers is the Job Accommodation Network,[21] which provides expert (one to one) assistance to employers on providing accommodations for employees with disabilities. The Rehabilitation Act prohibits discrimination against individuals with disabilities by specific types of employers: federal agencies, employers/businesses contracting with federal agencies and programs receiving federal financial assistance. The Department of Labor's Office of Disability Employment Policy does enforce this law.

Employers have no legal requirement to pay sick leave. Voluntary employer-paid benefits like leave accrual plans[22] or short-term disability benefits (which cover the first 13-52 weeks) may be provided (OECD, 2010).

Performance Outcomes

Since the OSH Act was passed, workplace fatalities, injuries and illnesses have fallen substantially, but this decrease is a continuation of a trend that began long before 1970. Empirical studies generally find the OSH Act has only a modest impact. Changes in the industrial mix of workers and improvements in technology have combined with expanded employer incentives unrelated to the OSH Act to decrease worker injuries and illnesses (Leeth & Hale, 2013; Nesta 2). The Healthy People 2010 final review report highlighted that almost two-thirds (64%) of the Occupational Safety and Health objectives achieved their Healthy People 2010 targets. The objective to increase the proportion of employees who have access to workplace programmes that prevent or reduce employee stress did not make progress toward the 2010 targets. However, work-related injuries per 100 full-time workers declined for all industry groups (objectives 20-2a through g), exceeding the 2010 targets (Centre for Disease Control, 2012).

Overall employment rates for people with disabilities have been stagnant or in decline, and the employment gap between people with and without disabilities has grown. The Americans with Disabilities Act has clearly helped some people with disabilities get jobs, particularly those people with disabilities who do not need workplace accommodations. But it has just as clearly helped some people with disabilities more than others, and those who need accommodations may have been harmed, at least in the short run (Bagenstos, 2004). The Healthy People 2010 final review report highlighted that employment rate among adults aged 18–64 with disabilities (objective 6-8 of the Healthy People 2010 programme) declined between 1997 and 2008, from 43% to 37%, moving further away from the 2010 target of increasing the employment rate of those with disabilities to 80% (Centre for Disease Control and Prevention, 2012). Among racial and ethnic groups, non-Hispanic white

[21] See https://askjan.org/

[22] Accrual programmes vary by organisations. For example, paid sick leave up to 12 days per year, or 'a balance of' 6-12 weeks paid time off up to 20 days per year, or 'a balance of' 4-6 weeks. 'Or a balance' means employees can only use a certain amount of sick leave in a certain period for various entitlements. For example, one organisational policy states- If an employee previously has used any portion of the 13 days of sick leave for general family care or bereavement purposes in a leave year, that amount must be subtracted from the 12-week entitlement. If an employee has already used 12 weeks of sick leave to care for a family member with a serious health condition, he or she cannot use an additional 13 days in the same leave year for general family care purposes. An employee is entitled to no more than a combined total of 12 weeks of sick leave each leave year for all family care purposes.

adults with disabilities had the highest (best) employment rate, 41% in 2008, whereas Hispanic or Latino and non-Hispanic black adults with disabilities had rates of 29% and 27%, respectively. Among educational groups, persons with disabilities and at least some college education had the highest (best) employment rate, 52% in 2008, whereas the rate for persons with disabilities who had less than a high school education was 22%. Also, males had a higher (better) employment rate than females for persons with serious mental illness (objective 18-4), 60% vs. 46% in 2002. When expressed as persons with serious mental illness who were unemployed, the rate for females was almost one and a half times that for males (Centres for Disease Control and Prevention, 2012).

Canada

Key Features

- OH service provision is voluntary, outsourced, and market-driven.
- Financial liability for disability benefit costs is driven by the private insurance sector. However, many individuals nationally do not have private insurance, thereby affecting national-level coverage.
- Workers' Compensation Boards provide both employees and employers with OH provisions, although the nature and scale of such services varies by federal jurisdiction.
- Canada has developed the first national standard for the promotion and protection of workers' mental health at work.
- It is the employer's duty to return employees to work and to provide workplace accommodations.

National Context

The population of Canada in 2016 was 35,151,728, with an employment rate of 60.2% in 2016. Variability of the employment rates across the provinces and territories is notable, with 69% in the province of Alberta to 50.7% in Newfoundland and Labrador (Statistics Canada, 2016). At the national level, there was an unemployment rate of 7.7% in 2016 (Statistics Canada, 2017), which has more recently dropped to 5.8% in 2019 (Statistic Canada, 2020).

It is estimated that one in five Canadians are living with a mental health problem or illness. Mood and anxiety disorders are the most common, affecting nearly 4 million people. By comparison, 2.2 million people in Canada live with Type 2 diabetes and 1.4 million have heart disease (Mental Health Commission of Canada, n.d.a). Consequently, there is increased awareness of the scale and impact of non-communicable diseases (in particular mental health issues) within this national context.

In 2001, 7.0% of full-time employees were absent from work for all or part of the week (excluding maternity leave; Statistics Canada, 2015). In 2011, this figure had increased to 8.1%, inclusive of: 5.9% for own illness or disability, and 2.2% for personal or family responsibilities (Statistics Canada, 2015). The estimated total work time missed for personal reasons increased during the 00's: 8.5 days per employee in 2001 to 9.3 in 2011. During this period, of the estimated 9.3 days lost, 7.7 were related to illness or disability and 1.6 for personal or family demands (Statistics Canada, 2015). This amounted to an estimated 105 million work days for all full-time employees. More recent figures suggest the average absence rate among Canadian organisations in 2015 was 8.9 days per full-time employee (Stewart, 2016).

The provision of OH services is voluntary, outsourced and market driven in Canada. Injured, ill or disabled individuals may receive care through the Canadian healthcare system, which is a publicly funded system that provides universal coverage for medically necessary healthcare services. The social security programme provides financial support to individual who are unable to work because of sickness or injury

through the Employment Insurance Program.[23] Employees with an injury or illness may also receive financial support and access to some rehabilitative services through the Workers' Compensation Broad in their jurisdiction.

Legal & Policy Context

Canada has not mandated the provision of OH services within a single act; rather certain provisions are included across a number of legal documents, which simply oblige employers to carry out certain activities or discrete tasks (e.g. identifying and managing risks, making adjustments to work and the workplace, and return to work measures). The health and wellbeing of the working population is governed primarily by health and safety legislation and labour law. In 2011, Canada ratified the ILO Promotional Framework for Safety and Health (No. 187), which includes provision of OH services within national-level programmes aimed at promoting healthier and safer work environments; but not the Convention on OH services (no 161).

It is important to note that each of the ten provinces, three territories and federal government have their own legislation within each policy domain. Unlike Australia (see case study for further details), also with a federal-system, Canada has not undergone a legal harmonisation process with this policy domain. The current section will aim to provide a brief overview of the legal (see Table 17) and policy context at the federal level, which aims to protect and promote the health of the working population.

The Canada Labour Code (Labour Code), Part II and the Canada Occupational Health and Safety Regulations (OSH Regulations) are the primary legislative documents protecting federal employees and associated employees (e.g. postal employees; ILO, 2013). Such governance documents are applicable to approximately 6% of the Canadian workforce, with the remaining 94% covered under the legislation of the province or territory where they work (Canadian Centre for Occupational Health and Safety, 2018). The Canadian Labour Code I includes three key parts:

- industrial relationship (including details on industrial relationships and collective bargaining);
- health and safety (including outlining employers' duty of care for employees ; and
- federal labour standards (including outlining the terms and conditions of employment concerning wages, hours, leave, holidays, sexual harassment and termination of employment; Government of Canada, 2017).

Regional Health and Safety Officers are appointed by the Minister of Labour and investigate incidents and complaints concerning health and safety in the workplace (ILO, 2016). At the provincial and territorial level, the government department responsible for health and safety varies across each jurisdiction. In some jurisdictions, it is a Workers' Compensation Board or commission that has the responsibility for enforcement (Canadian Centre for Occupational Health and Safety, 2018).

[23] See https://www.canada.ca/en/services/benefits/ei.html

Table 17. Summary of key legislative documents

Governance Domain	Key Legislative Documents	Comments
OSH legislation	Canada Labour Code, Part II Canada Occupational Health and Safety Regulations (OSH Regulations)	Occupational health and safety legislation in Canada outlines the general rights and responsibilities of the employer, the supervisor and the employee through an Act or statute and related regulations. The Canadian Labour Code I includes three key parts: *industrial relationship*, *occupational health and safety* and *federal labour standards*.
Labour Law	Canadian Human Right Act & Employment Equity Act	Covers keys employment equality issues of designated special groups and protected characteristics. Outlines requirements for workplace adjustment and duty to return employee to work.
Workers' Compensation Act	Government Employees' Compensation Act, Government Employees Compensation Place of Employment Regulations (SOR/86-791), and Government Employees Compensation Regulations (C.R.C, c 880)	Outlines the regulations surrounding who is eligible for compensation for work-related illness and injuries.

The Canadian Human Rights Act seeks to redress the principle that all individuals should have equal opportunities (in life and work). In the context of employees' health and safety, this Act included the legal provision for adjustments to employee's work or work environment in relation to illness or injury. The Employment Equity Act broadly addresses employment related issues of equality and inclusion. The Act seeks to achieve this by mandating the provision of special measures and the accommodation of differences to support employment equity (Government of Canada, 2018). Enforcement of such provisions is overseen by the Human Rights Commission of Canada (Government of Canada, 2018). Each jurisdiction in Canada stipulates governance on the regulations and provisions surrounding workers' compensation. At the federal level, it is the Government Employees Compensation Act. This act outlines the eligibility for compensation due to work-related injury or harm. This Act specifically details: (i) who compensation can be awarded to (employee or dependents); (ii) the rate of compensation and conditions; (iii) the determination of compensation, and (iii) who funds such provisions (Government of Canada, 2018).

Within the wider policy context, there exist a number of national standards, published by the Canadian Standard Agency, directly relevant to employees' health. For example, the National Standard of Canada for Psychological Health and Safety

in the Workplace (the first of its kind internationally) sets voluntary guidelines and provides tools and resources intended to support organisations in promoting mental health and preventing psychological harm at work (Mental Health Commission of Canada (Mental Health Commission of Canada, n.d.b). The standard provides a comprehensive framework to manage and prevent psychosocial hazards at work (Canadian Standard Agency, 2013). In 2014 the Mental Health Commission of Canada conducted a three-year national case study research project examining the implementation of the National Standard of Canada for Psychological Health and Safety in the Workplace (Mental Health Commission of Canada, 2017). In total, 40 participating organisations evaluated the impact of implementation of the Standard. The employed evaluation strategy predominantly considers qualitative data, paired with supplemented organisational performance indicators. The early and preliminary evidence suggests the Standard can help minimise the economic and personal costs of mentally unhealthy workplaces; however further and more detailed research is needed (Nesta level 2).

Healthcare & Social Security

Canada's universal, publicly funded health-care system (known as Medicare) is a model of universal health coverage. Healthcare services are provided on the basis of need, rather than the ability to pay. It provides relatively equitable access to physician and hospital services through 13 provincial and territorial tax-funded public insurance plans (Martin et al., 2018). Provinces and territories in Canada have primary responsibility for organising and delivering health services and supervising providers, they are chiefly responsible for the administration of their own health insurance programs.

Private insurance, held by about two-thirds of Canadians, covers services excluded from public reimbursement (e.g. vision and dental care, prescription drugs, vocational rehabilitation services, home care, and private rooms in hospitals). In 2014, approximately 94% of premiums for private health plans were paid through employers, unions, or other organisations under a group insurance contract[24] or uninsured contract (by which a plan sponsor (typically the employer) provides benefits to a group outside of an insurance contract (e.g. employee's family members; Allin & Rudoler, n.d.).

There are a variety of benefits available to Canadian employees, dependent on whether their illness or health-related impairment is, or is not, related to work. The four key applicable areas in this domain are: sick leave, sickness benefits, disability benefits and workers' compensation.

Most public service employees can accumulate up to 112.5 hours, or 15 days, of paid *sick leave* per year, funded by the employer. When these days are unused, they are referred to as "sick leave credits". Most collective agreements allow sick leave credits to be carried over from year to year. If the employee's illness or injury is related to work, income benefits are provided either:

[24] **Group insurance** covers a group of people, for example the employees of a particular employer or group of employers for the purpose of taking insurance.

- By the employer through *Injury-on-Duty Leave,* which entitles the employee to be paid at their full salary for a period of time. Injury-on-Duty Leave cannot be granted, however, unless the employee's claim is approved by the applicable Workers' Compensation Boards.
- Directly by the applicable Workers' Compensation Boards at between 75 and 90 percent of the employee's net earnings. Disability insurance benefits may be payable over and above workers' compensation benefits.

If the worker does not have enough sick leave credits to maintain their income for 13 weeks, they may also need to apply for Employment Insurance (EI) *sickness benefits*. Employers can deduct EI premiums from an employee's insurable earnings if that employee is in insurable employment during the year. Employees cannot receive both EI sickness benefits and disability insurance benefits for the same period (see www.canada.ca). Workers may be entitled if:

- they are employed in insurable employment;
- they meet specific criteria for receiving EI sickness benefits (notably, they have gained medical certification);
- their normal weekly earnings have been reduced by more than 40%; and
- they have accumulated at least 600 hours of insurable employment.

EI provides payments to people who lose their job or are unable to work through no fault of their own (e.g. injury or illness). An estimated 82.8% of Canadians were eligible for EI benefits in 2015 (Statistics Canada, 2016). The individual may be eligible to get up to 15 weeks of EI sickness benefits. For workers in insurable employment, employers deduct EI premiums from workers' wages or salary. These premiums go into the EI Fund. There is no minimum or maximum age for paying EI premiums. Workers pay EI premiums on all their earnings up to a maximum amount, but employers also pay EI premiums on their employees' insurable earnings (Government of Canada, 2016).

The EI Premium Reduction Program is offered to employers who offer their employees with a short-term disability plan. Qualifying employers may be entitled to pay their EI premiums at a rate that is lower than the standard employer rate of 1.4 times the employees' EI premiums. Short-term disability plans that are registered with the Premium Reduction Program may have an elimination period (maximum of 7 consecutive days) before the payment of benefits, similar to the EI waiting period. To be considered for a premium reduction, the plan that provides the short-term disability benefit to employees must:

- provide at least 15 weeks of short-term disability;
- match or exceed the level of benefits provided under EI;
- pay benefit to employees within 8 days of illness or injury (the elimination period cannot exceed 7 consecutive days);
- be accessible to employees within 3 months of hiring; and
- cover employees on a 24-hour-a-day basis.

Evidence of the employer's commitment to the provision of this disability plan is required to receive the premium reduction. For example, the employer must demonstrate a commitment that they will return 5/12 of the savings to the employees

covered by their plan.[25] During 1997 to 2006, the number of employers registered for this scheme declined. However, during this period the number of employees participating in this program increased from 5.3 to 5.8 million. Premium reductions are estimated at $795 million in 2008 (with administrative costs of about $2.3 million).

An evaluation of this program found little difference in employee sickness incidence rates between employers with a short-term disability plan and employers without one (around 6% in both instances). However, employer short-term disability plans were found to have longer benefit durations and pay out a higher level of employee insurable earnings. For example, in 2006/2007, Employment Insurance sickness benefit claim durations averaged 9.5 weeks, with an average benefit rate of 55 percent of employee insurable earnings. For employers with short-term disability plans, benefit durations averaged 20 weeks, with an average benefit rate of 70% (Government of Canada, 2009).

If an illness or injury is not related to work and the individual employee is unable to work either temporarily or permanently, they may be eligible for disability benefits (at 70 per cent of their salary). *Disability insurance benefits* are not automatic. Many employers offer disability insurance. However, workers can also get their own disability insurance plan. There are both short and long-term disabilities insurances.

- Short-term: Provides benefits for up to 6 months. If the employer offers a short-term disability plan, the workers' claim must be made through their disability plan. Employers aren't required to provide paid sick leave if they provide this insurance, but each employer is different.
- Long-term: This insurance benefit begins when the following benefits have ended: short-term disability, sick leave benefits from the employer, and EI benefits. Each plan is different, but some may provide coverage for up to two years. After this period, the worker may still receive benefits if they are unable to return to any job (Government of Canada, 2018).

The individual must submit a claim, which will then be reviewed and either approved or denied by the insurance company. The definition of a disability can vary between insurance companies and by insurance plans offered by the same company. If approved, disability insurance benefits will start only after they have been off work for at least 91 days (13 weeks), or when all their sick leave credits are used up; whichever is longer.

Employees who incur an injury at work or occupational disease may be entitled to *workers' compensation* (see Human Resources and Skills Development Canada, 2005; Human Resources and Skills Development Canada, 2012). Any disease, other than those found in workers' compensation legislation, that is due to the nature of the employment and characteristic of a particular occupation or trade, may be compensated. Workers may receive compensation for all or some of the following: compensation for loss of earnings; medical, hospital and related services; rehabilitation services; and a lump sum or a pension if they are permanently disabled.

[25] See outlined program by Government of Canada here: https://www.canada.ca/en/employment-social-development/programs/ei/ei-list/reports/reduction-program.html

Occupational Health Service Model

OH service provision is characterised as broadly voluntary, outsourced and market driven within the Canadian context. The organisation, delivery and coverage of OH services and programmes varies across jurisdiction. The estimated coverage of the working population in relation to OH services is moderate; with an estimated 48% of Canadians having access to workplace OH services. Private health insurance (which supports provision of some basic OH provision) is held by approximately 66% of Canadians (Royal Bank of Canada Insurance Survey, 2018).

Private insurance is central to accessing OH provision and care (beyond primary medical care). Secondary care is typically accessed privately or (if available) through in-house or externally contracted OH services. The provision of such care is financially covered by either: (i) employers, if they provide in-house or external contracted services; (ii) individuals through self-funding or private insurance; or (iii) by the local Workers' Compensation Board, if incurred medical costs are eligible under local scheme. In 2018, 48% of Canadians had workplace disability coverage, a decrease of 9% from 2015. Of those without such coverage, 84% had not bought private insurance (Royal Bank of Canada Insurance Survey, 2018).

A provincial Workers' Compensation Board may provide relevant OH services to help employees recover from the effects of an incurred occupational injury or illness; and, if applicable, facilitate their return to work. An individual may only receive access to financial support and medical and non-medical services if their injury or ailment meets eligibility criteria, as specified within their given jurisdiction. The services offered do, however, vary greatly across jurisdictions. These services may include medical and surgical treatment, physical and occupational therapy and a wide variety of other services (including vocational training). However, access to such provisions for employees is based on their eligibility, which varies across jurisdictions. Workers' Compensation Boards are financed through employer levies.

Occupational Health Services Staffing

OPs and OH nurses are key actors in the delivery of OH provisions across jurisdictions. However, it is primarily employees' GPs who are at the frontline in the delivery and co-ordination of medical and rehabilitative care. Other professionals (psychologist, ergonomist and occupational hygienists) are also key professionals in the field, but co-ordination of such multidisciplinary teams is varied and fragmented across jurisdictions. Within Canada, Return to Work (RTW) Co-ordinators may also support the provision of OH care and management. These professionals are not mandated in the workplace, but may be contracted to support the delivery of OH services. These professionals are certified by the Canadian Society of Professionals in Disability Management. They may work within an organisation (e.g. as part of an in-house OH service) or as part of an externally contracted OH service. Across a number of Workers' Compensation Boards in Canada they may also employ RTW co-ordinators. Responsibilities include, but are not limited to, expediting, coordinating and facilitating the return to work of persons with injuries, illnesses and disabilities in a range of settings (Canadian Society of Professionals in Disablity Management, 2020). A study looking at RTW co-ordinators (all employed in large companies with more than 500 employees) in Quebec, Canada indicated the most important tasks in their professional role:

- Contacting the employer
- Using the medical diagnosis and limitations to plan RTW
- Evaluating the work environmental factors that could hinder RTW
- Identifying tasks suitable for the employee's capacities
- Monitoring the employee's progress in achieving return to regular work goals
- Having a thorough understanding of the medical terminology
- Clarifying mutual expectations and the nature of the relationship between the employer and employee
- Evaluating the capacities of the employee who has RTW after an absence
- Identifying the employee's emotional reactions to the absence (Durnad, Nastasia, Coutu & Bernier, 2017).

In general, the private practice of Occupational Medicine has become the major growth area in both the US and Canada (Guidotti & Cowell, 1997). The following sections provide a brief overview of the role, training and accreditation of OP and OH nurses in Canada. The OM Specialist of Canada outlines the seven key roles of OM specialists (including both OPs and OH nurses): medical expert; communicator; collaborator; manager; health advocate; scholar and professional (Occupational Medicine Society of Canada, no date). A survey of the members of the Occupational and Environmental Medical Association of Canada was conducted to examine OM practice nationally. This survey collected information from 168 OPs. Practice types included corporate settings (58%), clinics (23%), government agencies (14%), Workers' Compensation Boards (7%) and academic settings (5%). The most common tasks performed by physicians working in the field of OM were fitness-to-work and return-to-work evaluations (Kraut, Thompson, Martin & Siu, 2017).

In Canada, OM is a specialty recognised by The Royal College of Physicians and Surgeons of Canada. Individuals can seek certifications thorough the Canadian Board of Occupational Medicine at various levels: Associate (no specific work experience is required, but individual has passed a basic OM exam); Certificant (more than three years' experience and has passed an oral practice-based exam); and Fellow (more than five years' experience, completed and defended a research dissertation, and passed an oral exam on professional practice). The primary remit of the Canadian Board of Occupational Medicine is to encourage the study, improve the practice, and elevate the standards of OM nationally (Canadian Board of Occupational Medicine, 2013).

OH nurses are also a key provider within this system. In 2003 a code of practice standards was published for OH nursing in Canada (Canadian Occupational Health Nursing Association, 2003). The primary role of the OH nurse in this national context is to coordinate the delivery of comprehensive, equitable, quality OH services for employees and worker groups. The scope of practice includes: managing and administering an OH service within legal and professional parameters; conducting health examinations; assessing the work environment; providing primary, secondary, and tertiary prevention strategies; providing health education programmes; providing health promotion programmes; providing counselling interventions and programmes; managing the information system; conducting health surveillance programmes; monitoring injury/illness trends; as well as programme planning, policy development,

and cost-containment strategies (Canadian Occupational Health Nursing Association, 2003). They are Registered Nurses (RNs) with a diploma and/or degree in Nursing. They may also have a college certificate in OH Nursing or a university diploma in OH. Nurses with specialised education and/or experience can achieve the designation of COHN(C) (Certified Occupational Health Nursing (Canada) awarded by the Canadian Nurses Association.

Employers' Role

Employers must exercise a duty of care for their employees (e.g. develop a programme to manage and prevent work-related hazards) under relevant health and safety legislation. Furthermore, employers in Canada have a duty to accommodate workplace conditions and return a sick, impaired or injured employee to work, whether that is to their original role or possibly in a different position in the company (OECD, 2010). Employers do not have any responsibilities of providing a period of continual wage payment during a period of sick leave for employees.

It is recommended that employers, in collaboration with employees and other key OH professionals, develop a return to work plan. If available, internal or externally contracted OH services may support this process. There are a number of supporting systems for employers to support work modification and to develop and implement return to work plans. At the federal-level, for example, a number of tools have been developed to support managers and employees in understanding disability management. Many of these actions are voluntary, with the exception of the requirement to make adjustments to the work environment for employees with a disability, illness or injury. To demonstrate that the duty to accommodate has been fulfilled, the employer must be able to document the process of considering and acting on the employee's request for adjustments. This might be included or detailed as part of a remain-at-work or return-to-work plan. There is no standard format to this documentation process to meet compliance (Government of Canada, 2017).

Furthermore, Workers' Compensation Boards play a key role in supporting employers in meeting their legal obligations and implementing best practice (see the example in Table 18); including providing tools, knowledge and resources to support employers' mandated actions or providing consultative services to support this process. A variety of policy-levers are used to support employer-led OH action across jurisdictions, including for example decreasing insurance premiums (e.g. Province of Manitoba).

Table 18. Province of Alberta workers' compensation scheme to support employer-led OH

Service	Remit	Impact
Return to Work	Provide tools for employers to support return to work through a modified work programme. An adjudicator or case manager is allocated to the injured employees and they will work with the employee, employer and healthcare provider to support return to work. Employers have access to services to support in determining what an employee can do while recovering (myWCB or Occupational Injury Service) to support a phased return to work. Occupational Injury Scheme allows employers to quickly report an accident, but also to support providing guidance for employee on how to gain medical access quickly.	Evidence of impact. In 2014, modified work helped more than 45,000 employees succeed at work following a workplace injury. Policy levers. Employers with good safety performance and return-to-work programs earn lower premium rates.
Vocational Rehabilitation Services	Training and skills development for employees on sick leave: (i) training on the job programme; and (ii) employment services.	Information not available.

Source: https://www.wcb.ab.ca/

Performance Outcomes

An estimated 105 million working days are lost due to absence from work for personal reasons annually, equating to 9.3 workings days missed per full-time Canadian worker (7.7 days related to illness or disability). Work absence levels differed by geographic area, with most of the variation again arising from illness or disability (Statistics Canada, 2015; Nesta 2). In April 2018, 453,100 people received regular EI benefits, down 3.4% from March, continuing the downward trend that began in the fall of 2016. The number of EI beneficiaries in April was at its lowest level since comparable data became available in 1997 (Statistics Canada, 2018).

Republic of Ireland

Key Features

- OH services embedded within national healthcare system. However, additional OH services may be obtained through in-house or external contracted services offered by employers or accessed privately by workers.
- The core OH team includes: OPs, OH nurses and OH administrators.
- In 2017 the Irish Health Service Executive published a series of standards on OH services in a report called: “Safer Better Care: Standards for Occupational Health Services”.
- A number of policy-level initiatives exist at the national level to encourage employer-led OH care. For example, the Government offers employers access to financial support for the provision of workplace adjustments for injured or ill workers on their return to work.

National Context

Population of the Republic of Ireland was 4,761,865 persons in April 2016, an increase of 173,613 in the past 5 years. There are 2,304,037 people in the Irish labour force, with 2,006,641 people currently at work; an increase of 11% in the past five years (Central Statistics Office (CSO), 2017a). In 2016, 87.0% of the population felt they had ‘good’ or ‘very good health’. Levels of reported disability have increased in the Republic of Ireland over recent years: 47,796 persons in 2011 to 643,131 in 2016. During this time, the incidence of different disabilities increased across all categories, with the largest observed increase related to psychological or emotional conditions (an increase of 28.7%). Consequently, this has corresponded with an observed increased number of disability benefits at the national-level (CSO, 2017b).

OH provisions in the Republic of Ireland are delivered through a mixed system of delivery. Firstly, basic OH services are provided through the National Health Service Executive through regionally-based clinics. Secondly, employees may access services through their employers (in-house or external services). However, Irish employers are not required by law to provide such services. The Republic of Ireland has a comprehensive, government funded public healthcare system. A person living in the Republic of Ireland may receive either full or limited eligibility for health services (dependent on their residency status). The social welfare system in the Republic of Ireland is divided into three main types of payments: social insurance payments (e.g. illness and job seekers’ benefits, and invalidity pension), means-tested payments (e.g. job seekers’ allowance), and universal payments (e.g. child benefit).

Legal & Policy Context

The Republic of Ireland has not mandated the provision of OH services within a single legal act. Rather, certain provisions are enshrined across a number of legal documents which oblige employers to carry out certain activities or discrete tasks (e.g. including; identifying and managing risks, work accommodation and return to work measures) and to provide some provision through the Irish National Health Service.

Within international law, the Republic of Ireland (in 1995) ratified the ILO's convention on Occupational Safety and Health Convention, 1981 (No. 155), which sets objectives and basic principles of a national policy on workers' health and safety. It does not, however, directly address the provision of OH services. The two ILO conventions that directly and indirectly address OH service provision (OH Services Convention, no. 16; and the Promotional Framework for Occupational Safety and Health, no 187) have not been ratified by the Republic of Ireland. However, some of their key principles may be enshrined across other key legal and policy documents.

At the national-level, the health and wellbeing of the working population is governed by primarily health and safety legislation, labour law and the social security programme. This section and the following section aim to provide a summary-level overview of this legal and policy context. In general, OSH legislation was first introduced in the Republic of Ireland in 1989, in conjunction with the European Community's Framework Directive (89/391/European Economic Community). The Framework Directive was transposed through the Safety Health and Welfare at Work Act (1989; updated in 2005). The Safety Health and Welfare at Work Act applies to all employers, employees (including fixed-term and temporary) and self-employed people in their workplaces. It sets out the rights and obligations of both employers and employees, and outlines the implications for breaches in such duties (typically through fines and penalties). The Safety Health and Welfare at Work Act places strong emphasis on consultation with workers and the role of worker safety representatives (see Health and Safety Authority, 2005).

The Safety, Health and Welfare at Work (General Application) Regulations (1993, updated in 2007) outlines, broadly, employers' obligations, employee duties, and the role of the Irish Health and Safety Authority (HSA; HSA, 2005). There are 19 published codes of practices in the Republic of Ireland, which predominantly cover safety-related issues; with the notable exception of the prevention and management of bullying at work (HSA, 2007). The HSA works with key duty holders to ensure that they meet their legal obligations in relation to OSH management. The HSA motivates and informs through providing a combination of promotion, information, inspection and enforcement. HSA's labour inspectors carry out both reactive and pro-active workplace inspections.

Employment law is supported by a number of key pieces of legislation in this national context, including:

- The Employment Equality Acts 1998: This Act outlaws discrimination in a wide range of employment and employment-related areas. These include recruitment and promotion; equal pay; working conditions; training or experience; dismissal and harassment including sexual harassment. This Act includes employer duty to put in place reasonable adjustments.
- Terms of Employment (information Act 1994): Sets out the basic terms of employment, which the employer must provide to the employee in a written form within two months of starting the employment.
- Worker Participation Acts (1977and 1988): The purpose of this Act is to provide board level participation of workers in certain enterprises through the election of employees for appointment to the board of directors.

The terms and conditions of employment of workers are determined by a process of voluntary collective bargaining between an employer or employers' association and one or more trade unions, without the intervention of the state. There is provision for collective bargaining at both company and industry level under Irish Law (Workplace Relations, 2018).

Healthcare & Social Security

The Republic of Ireland has a comprehensive, government funded public healthcare system. Residents of the Republic of Ireland are entitled to either full or limited eligibility for health services, dependent on specified criteria. Over 30% of the Irish population have medical cards. For those individual with a medical card, they are entitled to: free GP services; prescribed medication; in-patient public hospital services; dental optical and aural services; maternity and infant care services; some personal and social care services (e.g. public health nursing, community care services); access to short-term psychological counselling through primary care service; and a maternity cash grant. For those without a medical card, they can still access a wide range of community and hospital health services, either free of charge or at reduced cost (Health Service Executive, 2017). Basic OH services are provided through the Irish healthcare service, typically embedded in a group of community health organisations and hospitals groups. See section below for more details.

The social welfare system in the Republic of Ireland is divided into three main types of payments: social insurance payments, means-tested payments, and universal payments. There are also a range of employment schemes and numerous other forms of support offered by the state which seek to support disability management and return to work schemes. Social insurance contributions are paid by most employers and employees into the Social Insurance Fund.

For employees, payment of social insurance is compulsory. There are a number of social welfare payments for individuals who are employed and are sick or have a disability, which broadly fall under the "*Occupational Injury Benefit Scheme*. To qualify, the worker must gain medical certification by a GP which should state the date of their likely return to work. These guidelines provide defined periods of expected recovery and return to work in respect of common medical conditions and surgical procedures (Citizens Information, 2020).

Injury Benefit is a weekly payment received by individuals certified unfit for work due to accident or occupational disease. Payment is normally made from the 7th day of incapacity for work, and can be paid for up to 26 weeks (Citizens Information, 2020). If the individual is still unable to work following this 26-week period, they may be entitled to Illness Benefit, Disability Allowance, or Disablement Benefit.

- An individual may receive illness benefit if they cannot work because they are sick or ill. The claimant can be paid for up to: (i) 2 years if they have 260 weeks of reckonable social insurance contributions; or (ii) 1 year, if they have 104 to 259 weeks of contributions. Typically, individuals cannot work while receiving this benefit. However, if the claimant has been receiving support for a period of 6 months or longer they can apply for Partial Capacity Benefit (Citizen Information, 2020). This scheme allows individuals to return to work, even if they have reduced

work capacity, while continuing to receive a social welfare payment. A Medical Assessor assesses the restriction on their capacity for work, which determines the personal rate of Partial Capacity Benefit paid (Citizens Information, 2020)

- Disability Allowance is a weekly allowance paid to people with a disability. To qualify: individuals must have an injury, disease or disability that has continued (or is expected to continue) for at least a year; as a result of this disability, the individual is substantially restricted in undertaking work; be aged between 16-66; satisfy a means test and meet residency requirements. Individuals can claim for the cost of certain expenses associated with the medical costs incurred by occupational injury or disease, which are not already covered by the Health Service Executive or through the Treatment Benefit Scheme (namely, dental benefit, optical benefit or hearing aids) under the Medical Care Scheme (Citizens Information, 2020).
- Individuals who receive either their Illness Benefit or Disability Allowance may also be entitled to the Disablement Benefit. This benefit can be paid to the individual if they have a prescribed disease contracted at work. Payment is only made where the level of disablement following the accident or disease is assessed at 15% or more.
- If an individual, following illness or injury, is likely to be permanently incapable of work and satisfies the required minimum social insurance contributions, they may qualify for the *invalidity pension*.

Occupational Health Service Model

OH provisions in the Republic of Ireland are delivered through a mixed system of delivery. Firstly, basic OH services are provided through the National Health Service Executive through regionally-based clinics (embedded in Community Health Organisations and Hospital Groups). Secondly, employees may access services through their employers (in-house or external services). However, Irish employers are not required by law to provide such services, meaning they are typically outsourced and market driven.

The Irish Health Services Executive provides a number of OH services, which are embedded within a group of community health organisations and hospitals. Pathways to access such nationalised OH services include self or management referral. These services are funded by the state. Each OH service is staffed by an OP, OH nurses and an OH administrator (see subsequent section for more detail). In 2017, the Standards for Occupational Health Services in Irish Health Services were published by the Irish Health Executive. The development of these standards of care was in direct response to national-level concerns that such services were fragmented and inconsistent in their provisions and methods of delivery. The standards, which were developed by a multi-disciplinary team, aim to drive improvements in the quality and safety of OH services in the Republic of Ireland and promote consistency of service delivery (Health and Safety Executive, 2017). The Workplace Health and Wellbeing Unit are supporting the implementation of these standards with a number of resources including quality assessment and improvement plans. Beyond the services offered through the healthcare system, an estimated 45% of Irish employers

have an OH service in place, whether that is internal or external to the company. The provision of such OH services is, however, more common in large organisations (Prendergast, 2014).

Occupational Health Services Staffing

Physicians and nurses are key actors in the delivery of OH provisions. The (typical) composition of key professionals for in-house or externally contracted OH services could not be identified. Therefore, this section outlines the typical staffing requirements of the OH services embedded in the national healthcare system, namely: Occupational physician, OH nurse, and administrators. Most Irish Health and Safety Executive OH services are usually staffed by one OP, who typically works across multiple services.

The OH Physician has a specialist qualification in occupational medicine and is a member of the Royal College of Physicians. This specialist training takes four years to complete and must include periods of experience in industry. The remit of their professional role typically includes: assessing fitness for work, advising on workplace adjustments, preventing ill health, and promoting health and wellbeing. They also play a key role in rehabilitation by advising on optional treatment strategies.

The OH Nurse has additional qualifications in OH. The remit of their professional role typically includes providing advice and support on the management of health and wellbeing in the workplace. They are professionally skilled in the areas of health leadership and management, fitness for work, health risk management and the promotion of employee wellbeing. HSE OH services are typically staffed by one to nine OH nurses. Like OH physicians, they typically work across services.

OH Administrators provide a key support in the provision of OH services. They commonly have additional medical administrative qualifications, and are essential in providing necessary administration support for scheduling and delivering clinics in a confidential and supportive manner. Some regional level services are not staffed by an OH Administrator. However, this is typically the exception rather than rule; with most services having one to four such individuals. They too typically work across numerous services.

GPs also play an important role in this national context in supporting vocational rehabilitation recommendations and certifying sick leave.

Employers' Role

Employers (including self-employed persons) are responsible for creating and maintaining a safe and healthy workplace, including the management and prevention of both physical and psychosocial risks (see Irish Health and Safety Authority, 2005 for a review of mandated occupational health and safety management duties).

Within the Irish legal context, an employee has no right under employment law to be paid while on sick leave. Consequently, it is at the discretion of the employer to decide their own policy on sick pay and sick leave, subject to the employee's contract or terms of employment. However, many organisations operate sick-pay schemes, typically: public sector, full wage for six months and a half wage for another six; private sector, full wage for 4-26 weeks (OECD, 2010). Employers can require employees to provide a medical certificate when on sick leave. If the absence from

work continues, employers are able to terminate the employment contract under certain circumstances. Employees' rights are protected through unfair dismissal legislation (Unfair Dismissal Acts 1977-2015). Under the Employment Equality Acts 1998 and 2004, employers are obliged to take appropriate measures to ensure reasonable adjustments (unless the costs of doing so are disproportionate) to enable people with disabilities, injury or illness to have access to employment, to participate or advance in employment and to undergo training. Furthermore, under the Disability Act 2005, public bodies are required to recruit at least 3% of their workforce from among people who have a disability (Prendergast and Farrelly, 2015).

There has been some critique of national-level provisions surrounding sickness absence and disability management, as there appears to be confusion about where responsibility lies for rehabilitation and return to work among various key actors: government, employers, the medical profession and workers (HSA, 2008). Historically, absenteeism and rehabilitation management have not been considered the employer's responsibility, and ensuring an up-to-date medical certificate has been provided has been regarded as sufficient. However, there is growing discussion at national-level of the need for reforms, including: (i) the need for changes in relation to the policy and practice of issuing certificates of sickness; (ii) the role of GPs in supporting earlier return to work; and (iii) and the need for employers, managers and insurance companies to take a more proactive role in the management of the absence and return to work of employees (HSA, 2008).

Within this national-context, there exist a number of policy-level initiatives and partnership schemes by government and the social partners. The aim of such initiatives is to support and incentivise employer-led disability management, examples include:

- 'Intreo' is a government-led service offering practical, tailored employment services for employers and jobseekers alike. This service is a key national-level source of support for employers aiming to employ and retain people with disabilities.
- The employee retention grant offers financial support to private sector employers should a worker acquire an illness, condition or impairment. It aims to assist employers in retaining such employees by providing funding to: (i) identify adjustments and/or training to enable the staff member to remain in his/her position; or (ii) retrain the staff member so that he/she can take up a different position within the company.

Performance Outcomes

The HSA monitors trends in occupational illness and sickness absences at the national level (see HSA, 2015). An increased rate, from 2009 to 2014, was observed in relation to the rate of injuries, total illness and the number of workers taking a spell of absence of longer than four days (work-related injuries from 5.8 to 9.8, illness from 15.6 to 25.7 days of absence; HSA, 2015; Nesta standard 2). In January 2014, the rules of the occupational injury scheme changed so that payments were made from the seventh, rather than fourth, day of incapacity of work. Following this policy reform, the number of claims decreased, despite an increase in the number of individuals employed during this period. In 2015, the number of claims increased slightly to 10,182, from 9,768 in 2014; however, this figure is still well below the number claiming under the old rules in 2013 (HSA, 2015). More recent data suggests

that the total number of recipients of Disability Allowance has increased by 6% from 2015 to 2016. In 2016, the total expenditure on disability benefits was € 1,358 million, an increase of 6% from the previous year (Farrell, 2018). In total 54,492 individuals who could not work due to illness or injury were recipients of Illness Benefit in 2016, a notable reduction of 1.9% from the previous year. Consequently, the total expenditure on Illness Benefit decreased during this time by 3.6% to €597 million. In 2016, there were 1873 recipients of the Partial Capacity Benefit, a substantial increase of 16.2% from the previous year. The total expenditure of this social benefit was €13.1 million, an increase of 15.7% from the previous year (Farrell, 2018).

France

Key Features

- France has one of the most comprehensive OH systems in the world, largely because OH provision is obligatory.
- France offers a near-comprehensive OH system, where many provisions are specified by law.
- OH services coverage and health surveillance are compulsory for all private and public sector organisations with one or more employees.
- Employers cover cost of mandatory OH services.
- There are two types of OH services: OH 'group service enterprises' (or inter-company services, generally for smaller sized companies, non-profit) and 'autonomous' (in-house) OH services run by an individual company.
- OH services predominately physician-led, but increasingly supported by a multidisciplinary team.

National Context

France has a population of 64.8 million (Institut national de la statistique et des études économiques, *INSEE* 2020), with an employment rate of 65.2%– the 9th lowest among the OECD countries (OECD, 2018b). In 2018 (OECD, 2018c), 16.9% of workers were in temporary employment. France has a relatively low rate of self-employment in comparison to other OECD counties: 11.6% (OECD, 2018d). Eight in ten French workers reported their health status as 'good' or 'very good' health (European work Condition Survey, 2017). Over a third (35%; Eurofound, 2018) of all surveyed French workers felt their work affected their health, in comparison to 53 percent that felt it did not or 11 percent that did but mainly in a positive manner. Just under a third of surveyed French workers (Eurofound, 2018) were absent from work for health reasons (in the past 12 months) between one to 15 days, and a further 11 percent for over 15 days. Just under half of French workers (56%) felt that they could do their current job or a similar one after the age of 60 years old (Eurofound, 2018).

The provision of OH services is specified by law in France, which offers a mixed system of provision: state and some market-driven provision. OH services are compulsory for all private and public sector organisations with one or more employees, but the law excludes those self-employed (Bigaignon-Cantineau, 2009). The healthcare system in France is made up of a fully-integrated network of public hospitals, private hospitals, doctors and other medical service providers. It is a universal service providing healthcare for every citizen, irrespective of wealth, age or social status. France has a comprehensive social security system covering healthcare, injuries at work, family allowances, unemployment insurance, old age (pensions), invalidity and death benefits.

Legal & Policy Framework

OH service provision is legally mandated in France. More specifically, the organisation of OH Services is governed by *Decree 2012-137* on the organisation and operation of occupational health services and *Decree 2016-1908* on the modernisation of occupational health services. The role and responsibilities of occupational physicians, as key players in the delivery of this system, is governed by *Law 2011-867* of 20th of July, 2011 on the organisation of occupational medicine and *Decree 2012-135* of the 30th of January, 2012 on the missions of occupational medicine. Decree 2016-1908 also outlines a number of key duties of OPs (see section on OP staffing for more details; including for example monitoring the state of employees). In 2014, France ratified the ILO Promotional Framework for Occupational Safety and Health (No 187), but it has not ratified the Occupational Health Services Convention, 1985, (No 161) or Occupational Safety and Health Convention, 1981 (No. 155). The following section aims to provide an overview of key legal documents and the wider policy context.

The main item of legislation governing health and safety in France is the Labour Code (Code du Travail). This document brings together almost all statutory provisions regulating employment matters. Part Four of the Code, which applies to all private sector employees, deals with health and safety at work. Part Four is immensely detailed and is complemented by specific decrees. Furthermore, it is supplemented by other parts of the Code that deal with working time, bullying, sexual harassment and discrimination. The relevant provisions of the Code also cover much of the public sector; although some details of the legislation are adapted as needed to the specific nature of the entity (Barbour, 2015). Beyond the Code, relevant laws and decrees on public health and social security systems are specified in the French Public Code and French Society Security Code (European Agency for the Safety and Health at Work, 2017). Such key regulations include: The Labour Code; Public Code; Society Security Code; Law 2011-867 on the organisation of OM; Decree 2012-135 on the organisation of OM; Decree 2012-137 on the organisation and operation of OH services; Law 2014-40 on sustainability and justice of the pension system; Decree 2016-1908 on modernisation of OH services.

The Ministry of Labour defines and co-ordinates the government's policies, where such activities are strongly informed by the National OH Plan (2016-2020). This plan seeks to put prevention at the core of national–level systems and provisions, and to promote a prevention culture with a concentrated focus on workplace health promotion (2016).

The Working Conditions Advisory Board (Conseil d'orientation des conditions de travail) determines the focus on matters of OSH, and is a national body for consultation between the social partners and public authorities. In order to make or amend provisions of the Labour Code, social partners (notably at sector level) negotiate and sign collective agreements on employment, vocational training, working conditions and social guarantees for workers. Agreements can be made at national, sectoral and company level. Sectoral bargaining only covers small and medium sized enterprises, and many larger French companies typically have a company agreement. Since 2007, trade unions and employers have played an increasingly important role in developing legislation on industrial relations, employment and training. The government is required to consult the unions and employers first before any amendments to law are made (Kuhl & Schmitz-Felten, 2011).

The Labour Inspectorate monitors and enforces statutory rules and is centrally involved in dismissal cases, labour conflicts, wage disputes and illegal labour. In 2012, 40 physicians worked for the Labour Inspectorate. These medical inspectors are in constant contact with OH services and represent an important link between OP and the government. They play a key role in: (i) the certification of OH services; (ii) monitoring trends in OSH by analysing the individual annual reports of OP (although this is not often done in a systematic way); (iii) and encouraging regional meetings and training. There are, however, too few medical inspectors nationally to comprehensively execute such roles and responsibilities (Social and Economic Council of the Netherlands, 2012).

Healthcare & Social Security

The French healthcare system is one of universal healthcare largely financed by government national health insurance. Coverage is universal and compulsory, provided to all residents by non-competitive statutory health insurance (Durand-Zaleski, n.d.). Partly due to OH provision being obligatory within France and the integration of OH provisions within the national healthcare service, this system provides almost-near complete coverage of workers. Approximately 18.4 million private sector employees (Institut national de recherche et de sécurité, 2019), plus more than 5 million public sector workers all have access to OH provision, either through special 'group service enterprises' or in-house services (Bigaignon-Cantineau, 2009).

In France, employees under the General Insurance Scheme are covered against bodily injury or harm. The loss of income caused by workplace accidents (at or on route to place of work) and occupational diseases is covered through an Occupational Risk Insurance System. Any individual in salaried employment, or working in any capacity or location for one or several employers or business owners is covered under this scheme. It is important to note that farmers, self-employed professionals and civil servants are all covered under other insurance schemes. The General Insurance Scheme is overseen by the occupational accidents and disease branch of the French social security system (Institut national de recherche et de sécurité, 2017b).

The Occupational Risk Insurance System is financed by mandatory contributions from employers for each of their establishments. Contribution rates are set by an occupational risk committee of the social security system. They are set according to the size of the establishment, the activity sector and the frequency and seriousness of accidents of which its employees may be victim. A contribution rate is set for each establishment, based on the annual wage bill, and is paid entirely by the employer. Three rates are charged depending on the size of the enterprise (general rate, non-construction rate and the Alsace-Moselle region rate): collective rate (between 1 and 19 employees); blended rate (20-149), and individual rate (150 plus). The average annual wage bill contribution rate that a company must pay to insure its employees is 2.38% (Institut national de recherche et de sécurité, 2017b). When the claimant's application is accepted (for incurring an accident to or from work or contracting an occupational disease) they fully cover the employee's healthcare costs, and may cover other forms of financial compensation based on their situation (e.g. daily allowance, capital, pension; Santé et sécurité au travail, 2017).

A disability pension is offered under the social insurance and social assistance system. This scheme provides coverage for individuals assessed as incapable of professional activity (50% of the individual's average earnings). There are a number of elements which the doctor must take into account before certifying an individual as having permanent work incapacity. These elements include: the nature of infirmity (e.g. the physical or mental damage encountered by the individual); the general state of health of the individual; their age; their physical and mental faculties; and, finally, their professional skills and qualification. The concept of professional qualification relates to the possibilities of exercising a specific profession. As for aptitudes, these are the faculties that a victim of an accident at work or an occupational disease can have to reclassify or relearn a trade compatible with his state of health. If capable of work activity, they receive 30% of pension. Average earnings are based on adjusted earnings in their best 10 years of employment. If the insured resumes work activity, the pension continues to be paid for six months without an income test. Thereafter, the pension is suspended if the total income from the pension and earnings exceeds the average wage paid during the calendar year before the year the disability began.

Sick pay is subject to conditions and a three-day waiting period. The insured worker receives 50% of their salary from social security services, provided that they have worked 150 hours in the previous three months or 90 days preceding their sick leave. Under the terms of the 1978 monthly payment law, the employer is required to top up this proportion to at least 90% of pay. Depending on the length of service and the sectoral collective agreements in place compensation may last up to six months (3 months at 90% and then 67%; European Commission, n.d.). For example, if an individual has been with a company for 1-5 days the maximum duration of compensation payments they will receive is 60 days (30 days at 90% and 30 days at 66.7%). In contrast, someone with over 31 years' tenure at the company may receive up to 180 days (90 days with 90% and 90 days with 66.7%; Republique Franciase, 2020). Beyond that, the worker's doctor must apply to the local health services authority for a long-term illness exemption. In certain cases, the waiting period is compensated by the employer (Rosseau, 2010). Pensioners and some groups of non-employed persons will not be covered under this scheme, but will be covered for medical benefits (Social Security & International Social Security Association, 2012).

Occupational Health Service Model

The national OH service context is characterised by a system of OH service provision that is specified by law, with a mixed system of provision: state and some market-driven provision. More than 90% of the workforce have access to OH services. OH services are compulsory for all private and public sector organisations with one or more employee, but excludes those self-employed (Bigaignon-Cantineau, 2009).

French employment law (the Code du Travail) highlights a number of prevention activities in relation to OH. Traditionally, this system has been medically-centred in nature characterised by physician-led services. However recent reforms since 2004- 2005 are looking to modernise this system, with a concentrated focus on multidisciplinary teams supporting OH service delivery. There are several basic principles of the *Code* regarding the provision and delivery of OH within France.

- Mandatory occupational medicine must be provided to all employees. OH provision is compulsory for all companies with one or more employees. Such provisions are paid for exclusively by employers.

- Health surveillance (system of ongoing health checks) with regular follow-up is carried out on an estimated 23.5 million public and private sector workers, due to the statutory obligation to be provided by OH services. Within this statutory obligation all sectors are covered.
- The chief operating executive/managing director has the primary and personal responsibility to exercise duty of care for employees' safety and health. This duty of care includes prevention of occupational risks and provision of information and training of workers. If duty of care is not exercised, they can be prosecuted for negligence: "*faute inexcusable*".
- Mandatory risk assessment by employers with workers' collaboration.

There are two broad types of OH services operating in France: OH 'group service enterprises' (or inter-company services, generally for smaller sized companies) and 'autonomous' (in-house) OH services run by an individual company. The choice of delivery method is largely made according to the number of employees to be covered, or the annual number of medical check-ups needed.

OH Group Service Enterprises are non-profit organisations and offer OH advice, support, and surveillance to workers as well as employers across several entities. The main financing comes from regional social security funds, funded in the first instance by employers' levies. More specifically, companies pay a yearly contribution per employee, representing a fixed sum for all service provision. Each group has a President that is chosen from the affiliated employers, and must have a monitoring committee. These committees are made up of both employers and employees. In essence the companies that are members of the group service enterprise pay contributions to access provided provisions. Agreement by the Ministry of Economy and Ministry of Labour is compulsory and authorised by a regional labour relations branch with labour medical inspectorate advice. OPs within this service cannot legally provide services to more than 450 enterprises and 3,330 workers, or carry out more than 3,200 medical check-ups per year. Therefore, services may seek to address this constraint by utilising OH nurses or other allied OSH professionals. Their role, however, is not mandated and such provisions will vary by OH group service (Bigaignon-Cantineau, 2009).

Autonomous (in-house) OH Services. OH services are situated within the company and are monitored by a works council. This type of service is only permitted in companies with more than 500 employees (according to the French Labour Code, article D4622-5). This type of service is must provide medical surveillance for at least 10% of employees, be administrated by the employer and have an OP that is salaried by the company. Beyond an OP, this type of service is typically delivered by OH nurses, safety engineers, ergonomists, hygienists or other professions depending on the activities of the company and the likely encountered work-related risks. Such professionals are recruited, employed and paid by the company. However, the OP maintains technical independence and holds protected status by law (see below for more information). The labour inspectorate[26] has access to the worksite or company at any time judged necessary (Bigaignon-Cantineau, 2009).

[26] The Inspection du travail (IT, Labour inspection) is a French specialised body of civil servants in charge of the surveillance of employment and labour law in firms.

There were an estimated 240 group service enterprises in 2019 (Prévention, Santé, Service, Enterprise, 2019) and 1,000 autonomous OH services (Bigaignon-Cantineau, 2009). Group service enterprises provided health surveillance to an estimated 90% of the French working population (Bigaignon-Cantineau, 2009). All OH services are regulated by law and overseen by committees representing employers and employees (Bigaignon-Cantineau, 2009).

Occupational Health Services Staffing

In general, the national-level system of OH services is primarily physician-led. However, recent policy reforms have sought to move the delivery of this system to a more multidisciplinary team of OH professionals.

OPs play a central role in both types of delivery of OH services. They have permanent employment contracts and hold independent and protected status within this system as prescribed by law (The Social and Economic Council of the Netherlands, 2012). Unlike, OH nurses, OPs are protected by law against dismissal. This is intended to support and protect the professional independence of OPs when discharging their duties when employed directly by companies. A key role of the OP is to be an adviser to the employer, workers and their representatives. Decree 2016-1908 modernisation of occupational health services outlines a number of key duties of OPs within this national system. For example, before pronouncing the unfitness of an employee for their job, the OP must:

- conduct at least one medical examination;
- perform or order a study of the position;
- perform or order a study of the working conditions in the establishment in which this employee works; and
- discuss, consult and advise the employer by every means.

The employee concerned and the employer must be provided with the medical opinion of unfitness within 15 days as from the first medical, "*by any means proving the date*". This time limit also applies in case of a complementary medical examination. OPs can qualify through two routes, either certification by the French medical association, or through specialised studies with a legal mandate accreditation (EU-OSHA, 2017). Training requires six years of specialised study, followed by a three year qualifying training period. For certification, OPs must apply to the French Medical Association (EU-OSHA, 2017). In 2017, France had 5,409 OPs nation-wide, with 55.4% over the age of fifty (Dress, 2017). It is anticipated that the number of qualified OPs within France will decrease by 62% between 2006 and 2030. This is likely due to an increased number of OPs entering into retirement and the decreasing number of medical students seeking to specialise in this area (Grégoire, 2014).

The post of OH nurses is long-established in French workplaces, but only in big companies. A statutory requirement specifies that an OH nurse must be engaged if the provided OH service is an 'autonomous' OH service, and the company employs more than 200 people in industrial jobs or 500 in non-industrial jobs. As the company size increases, the number of OH nurses must also increase (Bigaignon-Cantineau, 2009). Until recently, no such statutory requirements were placed on intercompany OH services. However, with French OH services turning more towards primary

prevention entrusted to multidisciplinary teams, intercompany group services enterprises are now obliged to take on OH nurses (Grégoire, 2014). Training for OH nurses has been available since 1994. However, only since 2012 has this been a legal requirement. OH nurses lack the protection against dismissal as enjoyed by OPs (Grégoire, 2014). France made changes in 2000 to give a more multidisciplinary steer to its national-level OH system. The aim was to deliver real primary risk prevention by supporting OPs with other medical and allied (health) professionals (e.g. OH nurses, ergonomists, psychologists, toxicologists, etc.).

Employers' Role

Employers are obliged to take the measures necessary to exercise duty of care, and must follow certain general principles of preventions (see below). Employers must be alert to the need to adjust their OSH measures to take account of changing circumstances and to improve existing situations. In implementing the required OH and safety measures, employers must follow certain general principles of prevention.

These principles are:

- avoiding risks;
- evaluating risks that cannot be avoided;
- combatting risks at source;
- adapting work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, particularly with a view to alleviating monotonous work and work at a predetermined rate, and to reducing their effects on health;
- adapting to technical progress;
- replacing the dangerous with the non-dangerous or the less dangerous;
- developing a prevention policy and integrating into it, as a coherent whole, technology, work organisation, working conditions, social relationships and the influence of work environmental factors, notably risks relating to sexual harassment and "moral harassment" (this term refers essentially to bullying at work);
- taking collective protective measures and giving them priority over individual protective measures; and
- giving appropriate instructions and training to workers.

Employers must evaluate the risks to OSH, taking account of any gender-differences in the effects of exposure. The results of such actions should be recorded in a "single document" (*document unique*), containing an inventory of the risk(s) identified in each work unit. This document must be updated annually and following instances of major change in the work environment or emergence of new information.

Employers have specific obligations in respect of employees who have "strenuous" working conditions. This refers to workers who are exposed to certain risk(s), as stipulated in law, that are liable to have lasting, identifiable and irreversible effects on their health. The employer must create and update a special "exposure-prevention file" for each employee working in "strenuous working conditions". This employee specific file must outline the conditions concerned, the period of exposure, and the preventative measures taken. The format of this file (specified by law) must be

completed in conjunction with the general risk evaluation and be communicated to the company's OH service. The employee must be given a copy of this file when their employment ends, when they are absent from work (3 plus months), or after 30 days' absence due to an occupational illness or injury.

In relation to sick pay, French employers are obligated to pay full or part of the difference between the salary and the sickness cash benefits, in accordance with either national inter-professional or the collective agreement conditions. In France, employers are obliged to take measures to give access to, or to keep, a position corresponding to the employee's qualifications and to give them access to professional training. The long-term trend in spending for sick pay in relation to GDP in France has been quite stable over the past 10 years: 0.83% (2013; Spasova, Bouget & Vanhercke, 2016; Nesta level 2).

French law requires employers to provide reasonable accommodation related to work conditions, work organisation, working hours, work methods, facilities, training and arrangements of work for employees with disability or impairment. There is, however, no obligation for employers in France to provide vocational rehabilitation or to be involved in a return to work plan of employees on long-term sick leave (OECD, 2010).

Performance Outcomes

France, in general, lacks the statistical elements required to identify with precision which sectors of economic activity have the highest levels of sickness absence; or to make useful comparisons between the private and public sectors (Rousseau, 2010). Existing data are not easily accessed and need further treatment or require updating. Following a sharp increase from 1997–2003, the number of sick payments have, since this time, decreased slightly. It is thought that this is likely to do with stronger controls (Rousseau, 2010). France is characterised by a rather small growth rate of sickness benefits over 2003-2008 and considerably higher growth rates after 2008.

Extended Case Studies

Japan

Key Features

- OH service provision is specified by law.
- It is a requirement that all workplaces employing 50 or more workers appoint an OP. Among smaller sized companies, a part-time OP must be contracted, but can be shared across companies.
- The government provides support to smaller companies through the provision of OH services and support through Regional Occupational Health Centres Occupational Health Promotion Centres.
- Extensive infrastructure to promote vocational rehabilitation and return to work, and strong national focus on workplace health promotion.
- Emphasis in legislation on primary prevention – Total Health Promotion Plan.

National Context

Japan has a population of over 126 million people and is the world's third largest economy (IMF, 2018). Since the mid-1990s, there has been a sharp decline in Japan's working-age population (aged 15-64): 86.6 million in 2000 to 76.7 million in 2016. Despite this rapid decline, the size of the labour force has remained relatively constant during this period, decreasing only by about one million. This observed stability is largely due to the rapidly increasing participation rate among working-age women, and to some extent among older workers (aged 60−64). Starting from 2006, the government legally mandated that employers must offer continuous employment to workers above the age of 60 until they reach their social security pensionable age (Kawaguchi & Mori, 2017). In 2018, there were 66.6 million employed and 1.72 million unemployed persons in Japan (Statistics Japan, 2018a). In 2015, there were 5.1 million persons with a self-reported disability in Japan; of these 40% were aged below 65 years (United Nations Economic and Social Commission for Asia and the Pacific, 2015).

The Japan Epidemiology Collaboration on Occupational Health (J-ECOH) estimated the overall incidence rate of all-cause sick-leave in Japan to be 8.7 days in men and 9.4 in women. The three leading causes of sick-leave (percentage of total spells) were mental disorders (52%), neoplasms (12%), and injury (8%) for men; and mental disorders (35%), neoplasms (20%), and pregnancy-related disease (14%) for women (Nishiura et al., 2017).

The OH service model in Japan is specified by law and sets out clear responsibilities for both employers and the provision of such services. The national-level system is characterised by mixed sources of provision, some deriving from the state and others market-driven. The Japanese healthcare system is characterised by universal

coverage, free choice of healthcare providers by patients and fee-for-service practice. The Japanese healthcare system is divided into three social insurance systems: employee health insurance; health insurance for the self-employed; and health services for the elderly. Benefits are available to individuals to support with permanent disabilities, sickness and work-related injuries and diseases (The Commonwealth Fund, 2017).

Historical Background

Japan's rapid industrialisation and economic growth in the latter half of the 20th century influenced the development of a number of practical and policy measures to promote workers' health and safety. The most significant being the enactment of the Industrial Safety and Health Law in 1972 (amended several times since its enactment). Two areas of notable reform have been in relation to two areas of growing concern:

- *karoshi* (death brought on by overwork or job-related exhaustion) and
- *karo-jisatsu* (work-related suicide).

The Industrial Safety and Health Law in 1988 sets out several employer duties in relation to the promotion of workplace health promotion (see section below for more information), and several concrete guidelines were issued by the Ministry of Health, Labour and Welfare (i.e., guidelines to prevent *karoshi and* mental health promotion in the workplace; Muto, 2007; Muto, 2011). Two notable policy developments occurred during the early 21st century: The Silver Health Plan and, more recently, the Total Health Promotion Plan. Both have a concentrated focus on promoting workers' physical and mental health. Japan is a unique national example of a national context with a strong focus on workplace health promotion. In 2000, Japan announced the National Health Promotion Movement in the 21st century, with the shortened name of Healthy Japan 21. This policy aims to encourage all citizens to be healthy and free of disease. It focuses on healthy dietary habits, promotion of physical activities, diagnostic tests and reduction of tobacco use. In Japan, local governments assumed the main responsibility for financing such health promotion activities (Bayarsaikhan, 2008).

As of 1999, there were 63 provisions in 53 Japanese laws that disqualified persons with psychosocial, visual, hearing, physical and intellectual disabilities from receiving licenses for certain professions. These 'disqualifying provisions' were built on the assumption that persons with disabilities were unable to perform certain jobs as a result of their impairments, and that their engagement in these professions might endanger themselves and others. In 2001, the Japanese Government acknowledged the need to break down barriers to the employment of persons with disabilities and began to amend qualifying provisions. According to the Citizens' Committee to Eliminate Disqualifying Clauses on Disability, as of 2015, 51 out of 63 provisions have been relaxed, and the remaining 12 have been nullified entirely. The 2013 Third National Basic Plan of Action on Persons with Disabilities and the 2015 Basic Policy on the Law on the Elimination of Discrimination against Persons with Disabilities commit the Government of Japan to make further legal revisions, with an emphasis on integrating technological advances into accommodations. These legal revisions make it significantly more straightforward for many persons with disabilities to gain employment (UN ESCAP, 2015).

Legal & Policy Context

OH service provision is legally mandated in Japan, where the organisation of OH services is enshrined in the Japanese constitution; and in particular within the Labour Standards Law. In 2007, Japan ratified the Promotional Framework for Occupational Safety and Health (No 187), 2006. However, ILO Conventions 155 (Occupational Safety and Health Convention, 1981) and 161 (Occupational Health Services Convention, 1985) have not been ratified.

The constitution of Japan forms the foundation of Japanese labour law. This legislative document outlines a variety of fundamental labour standards, for example: the right and the obligation to work, and provisions relating to wages, hours, rest and other working conditions. There are three major labour laws within the Japanese context: *The Labour Standards Law* (regulates working conditions and workplace safety and hygiene), *the Trade Union Law* (guarantees the worker's right to organise and to bargain collectively) and the *Labour Relations Adjustment Law* (specifies labour management adjustments and means of dispute settlement) (Jung, 2001). All three have been amended regularly overtime.

The enactment of the Industrial Safety and Health Law in 1972 is central to the occupational health and safety system within Japan. This law has, however, undergone many amendments over the years. Other relevant laws for OH include the Enforcement Ordinance of Labour Standards Law, the Workmen's Accident Compensation Insurance Law, the Enforcement Order of Workmen's Accident Compensation Insurance Law, the Enforcement Ordinance of Workmen's Accident Compensation Insurance Law, and the ordinance on the Payment of Special Supplements of Workmen's Accident Compensation Insurance (Japan International Centre for Occupational Safety and Health, 2008). The *Ministry of Health, Labour and Welfare* is responsible for the implementation of these laws and their enforcement orders. Such laws specify that an employer must exercise a duty of care for workers' health and safety, and are responsible for the provision of OH services. The specification of such provisions is, however, in accordance with the size of the workplace. All workplaces, regardless of employee number, are mandated to provide health examinations for their workers (Takahashi, 2011).

The Japan Society for Occupational Health is an academic society comprising occupational physicians, occupational health nurses and researchers. Core research institutes include the National Institute of Industrial Health, the Institute for Science of Labour, the Japan Industrial Safety and Health Association, and the Institute of the Industrial Ecological Sciences of the University of Occupational and Environmental Health (Muto, 2007).

Discrimination on the basis of race, creed, gender, social status or family origin is prohibited by the Japanese constitution and is elaborated on in the Labour Standards Law and the Equal Employment Opportunity Act (EEOA; Jung, 2001). The Act for Promotion of Employment of Persons with Disabilities 2013 (and its previous versions) requires Japanese employers, both public entities and private enterprises, to employ a specific percentage of persons with disabilities in their workforce. The legally prescribed quota is calculated by using a formula, taking into account the rates of full-time employment and unemployment in the market place (ranges from 2-2.3%). Since April 2015, if an enterprise employing more than 100 workers fails to fulfil the legally mandated quota, it must pay a levy of ¥50,000 per month for each person it falls short of the quota. On the other hand, if an enterprise has achieved

the legally mandated quota, it can obtain an adjustment allowance of ¥27,000 per month for each person above the quota. For enterprises that are not yet required to file the levy form (namely, employers with less than 50 employees), if they employ a certain number of persons with disabilities, they will be eligible for a reward of ¥21,000 per month for each disabled employee. In addition, there are special systems for the adjustment allowance and rewards for employers who give jobs to persons with disabilities engaged in home-based work (through the support system for home-based work by persons with disabilities; Ministry of Health, Labour and Welfare, 2012; see Hasegawa, 2010 for a review).

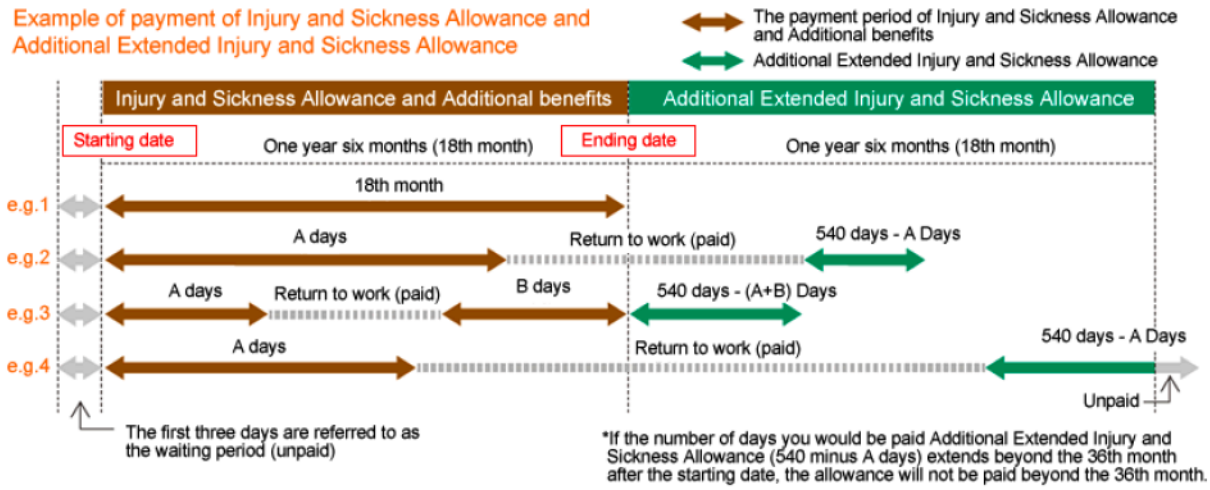
Healthcare & Social Security

The Japanese healthcare system is characterised by universal coverage, free choice of healthcare providers by patients and fee-for-service practice. The Japanese healthcare system is divided into three social insurance systems: employee health insurance, health insurance for the self-employed, and health services for the elderly. Benefits are available to individuals to support with permanent disabilities, sickness and work-related injuries and diseases (The Commonwealth Fund, 2017).

Workers' accident compensation insurance covers sicknesses and injuries caused by accidents or injuries while on duty or during the commute to and from work. However, even for those occupational injuries or diseases that do not qualify for such benefits, injured workers may receive benefits from the national health insurance system. Individuals who have been insured for less than 12 months may receive the lesser of two options: individual's average standard monthly remuneration over the most recent continuous months prior to the month payment of the allowance begins; or society's average standard monthly remuneration for all insured persons as of September 30 of the preceding fiscal year. Workers' accident compensation insurance is supported by self-employed persons and employers. Subsidies are provided by government when needed. In addition to insurance benefits, the Workmen's Accident Compensation Insurance System secondarily operates a system for promoting the welfare of workers and their bereaved families by, for example promoting social rehabilitation and assisting those who are affected (Workmen's Accident Compensation Insurance Law; JICOSH, 2008).

The Japanese Government provides injury and sickness allowance. The basic aim of this scheme is to ensure that workers have adequate recuperation time from medium to long-term sickness without incurring any major financial penalty. In short, it allows a worker to take a period of absence from work for up to 18 months and still receive up to 66% of their regular salary. To qualify for such benefits, workers must be absent for at least three consecutive days (legally defined as the 'waiting period'). No benefits are paid to cover these three days. Individuals may receive additional support (beyond 18 months) through the Additional Extended Injury and Sickness Allowance Scheme (Jung, 2001; see Figure 3).

Figure 3. Injury and Sickness Allowance System in Japan (IBM Japan Health Insurance Association, 2013)



Individuals that are assessed as having a disability that severely restricts their ability to live independently or impairs their work capacity may be eligible to receive the disability pension through either the national or employees' pension insurance programme. To qualify, they must be insured at the first medical exam and have paid contributions during the specified period of time. Qualifying individuals are paid an annual sum of money, dependent on the severity of their impairment. The eligibility of an individual to receive the disability pension (national pension programme) includes being assessed with a Group I (total disability) or a Group II (severely restricted ability to live independently) disability. They must be insured at the first medical exam and have paid contributions during a period of time. Qualifying individuals are paid an annual sum of money dependent of whether they are classified as group one or two.

For Group I, the insured individual will receive 125% of the old-age employees' pension received or entitled to receive, and for Groups I and II 100%. Individuals may also qualify for a disability grant. This grant is paid only to individuals assessed as Group I or II. Qualifying individuals receive a lump sum of 200% of the old-age employees' pension the insured received or was entitled to receive. In 2014, nearly 4 trillion yen (£28.42 billion) was paid out as disability benefits, while payments for employment injuries and illnesses amounted to nearly 1 trillion yen (£7.2 billion) and sickness benefits an additional 342 yen.

Occupational Health Service Model

The OH service model in Japan is specified by law and sets out clear responsibilities for both employers and the provision of such services. The national-level system is characterised by mixed sources of provision, some deriving from the state and others market-driven. An estimated 83% of the Japanese workforce is covered by OH services (Rantanen, Lehtinen, Valenti & Iavicoli, 2017).

The law stipulates the employer's responsibility to provide OH services, including the appointment of an OP physician. In workplaces that employ more than 1000 employees, employers are required to appoint a full-time OP; while in enterprises with 50 to 999 employees a part-time OP must be appointed. The part-time OP engages in a variable range of OH activities, depending on the needs of the workplace and the physician's expertise. The self-employed are not covered under such legal

requirements (Muto, 2007). Legally mandated OH services are funded directly by employers in enterprises with more than 50 employees. There is no requirement to appointment an OP in workplaces with less than 50 employees. The state provides OH services to small workplaces with fewer than 50 employees through Regional Occupational Health Centres and Occupational Health Promotion Centres (Hino et al., 2006; Muto, 2007).

Regardless of employee number or size of enterprise, all workplaces are mandated to provide health examinations for their workers. The mandatory health examinations include pre-employment and periodic general health examinations for full-time workers, and specific health examinations for full-time workers engaged in activity described as 'harmful work'.

Large-scale workplaces often provide full-size OH units (e.g. health administration department, a department of health promotion, or a clinic/hospital on the premises). These units may take the form of independent institutions, especially if they focus on curative activities; but many are units subordinate to departments, such as the labour department or the general affairs department. In some cases, the OH unit is run by a corporate health insurance union. The full-time OP is often appointed as the director of the unit. Other unit staff may include general nurses, OH nurses and x-ray and/or medical technologists (Takahashi, 2011).

Workplaces employing 50 or more people must appoint health officers from among their employees. Health officers, who are licensed by the director-general of the Prefectural Labour Bureau, take charge of the technical matters related to health in the workplace. All workplaces employing between 10 and 49 workers are obliged to appoint a health promoter, whose responsibilities are almost the same as those of health officers. Their main responsibility regarding OH is the planning and implementation of OH activities in the workplace. They are also expected to play an active role as co-ordinators between employers and OH physicians (Muto, 2007).

Guidance on the Total Health Promotion Plan, which is an administrative measure based on the Labour and Welfare Ordinance, refers to concrete aspects of workplace health promotion. The objective of workplace health promotion is the prevention of lifestyle-related diseases (e.g. hypertension, diabetes, hyperlipidaemia and obesity) through targeted behavioural change initiatives for workers. Personnel involved in health promotion programmes, therefore, include health educators, mental health advisers, dieticians and healthcare trainers. In particular, mental health promotion is currently a key priority in Japanese OH services (Moriguchi et al., 2010).

Occupational Health Service Staffing

Depending on the size of the enterprise there are a vast number of individuals and professions involved in the delivery of OH services. However, the role of physician (and in particular OPs) is central to the delivery of this service. In large organisations, OH services may also include: general nurses, OH nurses and medical technologists. In smaller organisations, OPs are typically recruited among private (and sometimes public) GPs, hospital or university affiliated physicians and independent OH consultancies, to support in-house OH service delivery. Smaller organisations are also supported by access to a wide range of professional expertise through Regional OH Centres and OH Promotion Centres, including for example: health educators, mental health advisors, dieticians and healthcare trainers.

The legal framework in Japan stipulates seven duties of OPs. In particular, matters relating to the:

- implementation of the medical examination of workers and implementation of a healthcare programme for workers based on the result of medical examinations.
- maintenance and control of the work environment.
- control of work (i.e. how work is managed and tasks carried out).
- healthcare of workers in addition to matters set forth in the above three items.
- health counselling and other measures for the maintenance and promotion of workers' health.
- health education.
- investigation of the causes of impairments to health and preventive measures for workers.

All of these mandated duties have a strong prevention focus. Curative medical services are not included as mandated duties of OH physicians or OH service providers, although such services are voluntarily provided by some large companies for the convenience or benefit of employees (Muto, 2007).

OPs must have sufficient knowledge, meeting the requirements laid down by the Ministry, to provide occupational healthcare for workers. To qualify, medical doctors have to have one of the following four qualifications: (i) completed a basic OH course provided by the University of Occupational and Environmental Health; (ii) a qualification from the Japan Medical Association (which started an accreditation system in 1990), which entails at least 50 hours of fundamental education and training in OH; (iii) a national licence to practise as an OH consultant; or (iv) a professorship or associate professorship at a university that offers (or has offered in the past) courses on OH (Muto, 2007). Continual professional development of OPs is viewed as extremely important; physicians are therefore required to undertake at least 20 hours of further education and training every five years if they want to maintain their qualification.

The Japan Society for Occupational Health (JSOH) started board certification for OP in 1993. Professionals seeking certification from the JSOH must fulfil five conditions, namely:

- two years' training in clinical medicine;
- members of the Japan Society of Occupational Health for at least five years; completed basic OH training,
- three years' practical training in OH under the guidance of senior certified OH physicians; and
- presented a paper on OH research at an annual conference of the Japan Society of Occupational Health or have published a research paper in the Journal of Occupational Health.

Certification is given to physicians who pass the two-day certification examination, which includes a knowledge test, individual and group interviews, and a test of presentation skills (Muto, 2007).

There are no legal requirements or certification system for working as a nurse in OH settings; it is only necessary to be a qualified nurse. Nothing is stipulated in the Industrial Safety and Health Act concerning ergonomists, industrial hygienists or psychologists. However, the functions of OH consultants and work environment measurement experts are stipulated in both the Industrial Safety and Health Act and the Work Environment Measurement Act. OH consultants, mostly experienced OPs, health officers or health nurses who hold a licence issued by the Ministry, can consult on the health of a workplace at the request of an employer (Muto, 2007).

Small-sized Employers

Small organisations comprise 97% of all workplaces, and 60% of the employed workforce in Japan. Therefore, while OH coverage is 100% in large organisations, it is less as the size of the company decreases (Muto, 2007). OH service provision in smaller sized enterprises is therefore a key priority nationally. Small-scale workplaces are exempted from some requirements of the Industrial and Safety Act, such as the assignment of OPs and the establishment of a health committee. Such concerns regarding coverage are considered a national-level priority (Muto, 2007).

As mentioned previously, in 1993 the Ministry adopted a new policy of providing OH services to small workplaces with fewer than 50 employees. The establishment of 347 Regional Occupational Health Centres (ROHCs) was completed in 1998, and 47 Occupational Health Promotion Centres (OHPCs) were opened by 2003. The ROHCs were established by the government and their management was entrusted to regional medical associations. ROHCs provide health guidance for employers and employees, workplace visits to give advice on the improvement of the work environment and work procedures, and information on OH services. The OHPCs were established and funded by the Labour Welfare Corporation. The OHPCs have five functions: supporting the ROHCs, providing technical consultations for OH personnel, collecting and providing information on OH, training OH personnel, and managing public relations concerning OH. The services supplied by ROHCs and OHPCs are without any cost to client workplaces (Hino et al., 2006; Muto, 2007).

OH organisations/consultancies, defined as organisations delivering OH services on a profit-earning basis, have played an essential role nationally in the provision of OH services to smaller workplaces. Services cover provision and follow-up of various health examinations, implementation of environmental measurements and dispatching of OPs and nurses as necessary. Many small-scale workplaces appoint a part-time OP, and maintain a contract with an OH consultancy to meet specific legal requirements imposed on the workplace. The requirements imposed on the workplace, such as provision of periodic health examinations to all employees, often exceed the time capacity and/or the willingness of the contracted physician. This creates a demand-supply gap, which is often filled by OH consultancies (Takahashi, 2011).

Employers' Role

The aim of this section is to provide a brief overview of some key responsibilities.

Employers' roles and responsibilities for OH management and maintenance are stipulated within the national framework. Such mandated actions include:

- maintenance and control of the work environment and work,
- provision of OH services (including appointing an OP),
- providing compensation for injured or harmed workers, and
- compliance with the quota system.

The maintenance and control of the work environment and work are primarily the duties of employers, but OPs make the necessary recommendations to employers where it is deemed necessary to maintain the health of employees. When an employer receives a recommendation from an OP, he or she is bound to respect it (Muto, 2007). Furthermore, the Labour Standards Law requires employers to provide compensation for workers who are injured or made ill due to an industrial accident. Employers are required to pay the workers' wages for the period during which they cannot work, and the costs associated with necessary medical care.

As discussed previously, employers have a number of obligations in supporting workplace health promotion. In 2002, the Ministry issued a list of comprehensive measures to prevent ill health due to overwork. Employers were required to reduce overtime working, and to provide health guidance via OPs to workers who engaged in more than 100 hours of overtime per month, or more than 80 hours per month during the previous 2–6 months. In 2005, the Industrial Safety and Health Act was amended to reflect the 2002 notification to require employers to refer overworked employees for interviews with an OP, and to ask for recommendations and health advice from them.

In 2000, the Ministry issued guidelines on mental health promotion in the workplace. Employers are required to develop a mental health promotion plan with special reference to the system, its implementation, staffing and a privacy policy. They are also required to implement the plan through four routes: (i) self-care by employees; (ii) care through line management; (iii) care provided by the company's healthcare staff; and (iv) care provided by external healthcare staff (Muto, 2007).

As detailed previously, employers may receive allowances if they meet their legally mandated quota of persons with disabilities in the workplace. The government also provides grants to cover additional costs incurred by employers in their attempts to hire persons with disabilities or retain employees who have become disabled. For instance, grants are available for upgrading the workplace environment, developing the skills of persons with disabilities, and hiring job coaches. In addition, tax incentives, loans, and grants for promoting the employment of persons with severe disabilities are also available. As an integral part of the quota system, placement centres, vocational rehabilitation programmes, and support centres run by either the government, independent legal persons, or non-profit organisations, are established throughout Japan (Lo, 2012). These include: 545 Public Employment Security Offices (provide job placement, occupational guidance, and development of job offers, etc. in accordance with the individual's situation), 47 Regional Vocational Rehabilitation centres for Persons with Disabilities (professional vocational rehabilitation services, such as work assessment, readiness training, and job coaching); and 316 Employment and Livelihood Support Centres for Persons with Disabilities

(counselling and support services for work and life). Employers are obliged, based on the recommendations of the OP, to make the necessary workplace accommodations for employees with an impairment or disability (OECD, 2010).

System Impact & Evaluation

Since the implementation of the Industrial Safety and Health Law in 1972, the number of fatal and non-fatal accidents has broadly reduced over time (JICOSH, 2008). However, there remain national efforts to further reduce these (Ministry of Health, Labour and Welfare, 2013; Nesta 2). The Total Health Promotion Plan (as discussed previously) was specified as an obligation of offices for active healthcare. This novel approach recommended the adoption of primary prevention interventions in the workplace, instead of focusing only on secondary prevention (previously the main focus). Studies evaluating Total Health Promotion Plan initiatives in the workplace suggest that such efforts may help prevent the development of lifestyle-related diseases (Oura et al., 2001). For example, a cohort study found this programme to be effective in preventing cardiovascular events, including ischemic heart disease and cerebrovascular incidents (Senoh & Mitsumune, 2009).

Despite the existence of a sophisticated network of training, rehabilitation, and welfare programs, the actual employment of persons with disabilities is still lower than desired. One reason suggested is that some enterprises prefer to pay levies rather than employ persons with disabilities. Therefore, many advocates suggest it is important to reassess whether the amount of levy should be raised. Likewise, the unsatisfactory compliance rate of enterprises casts doubts on the efficacy of administrative enforcement of the quota system, and poses the question of whether judicial intervention based on antidiscrimination or other legal bases should be employed (Lo, 2012). However, despite these criticisms, the evidence indicates that the quota and levy system in Japan has a positive impact on the employment of persons with disabilities. The total number of persons with disabilities working for companies covered by the quota system has increased over the last 16 years, especially among individuals with severe disabilities. Furthermore, even though more than half of companies feel the legally-prescribed minimum employment rate level is too high, most employers (92%) support the system, and recognise that legislation is important for promoting the employment of persons with disabilities (Kudo, 2010). A recent study observed that the quota and levy system increased the employment of disabled workers in Japan's manufacturing industry, while continuing to maintain the industry's profit rate (Mori & Sakamoto, 2018).

Mechanisms of System

- Strong legislative basis. National OH system combines the best national traditions with universally accepted guidance and an emphasis on primary prevention (including, Total Health Promotion Plan), as well as rehabilitation.
- Extensive infrastructure to promote vocational rehabilitation and return to work.
- Close cooperation among the various relevant actors in OH.

Lessons Learned

- OH services do not cover self-employed workers. Addressing and managing such workers needs is a key national level priority.
- There is an increased need to evaluate OH services and their activities within.
- There is a need for a certification system for OH nurses.

Germany

Key Features

- Employers are obliged by law to organise OH services for their employees. However, OH service organisations operate under free market conditions and do not form part of a public health scheme or national health service.
- Self-governed statutory accident insurance institutions are funded solely by employers' contributions providing a comprehensive prevention, rehabilitation and compensation services. All employees are compulsorily insured against occupational accidents and diseases.
- Some of the statutory accident insurance institutions run OH services (e.g. Arbeitsmedizinischer und sicherheitstechnischer Dienst).
- OH services are multidisciplinary with all major OH service organisations employing at least an OP, a safety engineer and a psychologist.
- Regional expert advice centres provide advice to both employees and employers on disability issues and are typically linked to local job centres.

National Context

Germany has a population of more than 82 million, with an estimated 44.7 million in employment (Destatis, 2018a). An estimated 36 million German workers are subject to social insurance contributions at their place of employment (Destatis, 2018b). In Germany, the majority of organisations (approximate 90%) are small and medium sized employers, with approximately 60% of workers employed by such companies (Froneberg & Timm, 2012).

In 2016, fewer reports of new cases of suspected occupational disease (80,163) were reported as compared to the preceding year (-1.9%). Increasing trends, however, were observed nationally in relation to new cases of diagnosed occupational diseases (an increase of 23.7%). While absenteeism has been observed to be declining, the occurrence of presenteeism[27] remains a significant issue, particularly among smaller-sized companies. In 2016, the rate of sickness absence spells was on average 19 days per person annually. It is important to note, however, the German data on absence from work typically derives from statistics provided by the statutory health insurers in medical 'inability to work' certificates and, therefore, cannot be meaningfully compared to other European countries.

OH service provision is specified by law in this national context, with such services provided under free market conditions and not forming part of a public health scheme or national health service. Since 2004, all German organisations are covered by OH services, which are contracted and financed by the employer (Froneberg, 2007). Consequently, such wide-spread provisions have yielded near comprehensive coverage (Froneberg & Timm, 2012). Germany has a universal multi-payer healthcare system, paid for by a combination of statutory health insurance

[27] The definition of presenteeism adopted in this report is from Johns (2010), 'showing up for work when one is ill'. This avoids value judgments about when one is too ill to work, does not incorporate consequences such as lower productivity and excludes causes other than ill-health.

and private health insurance. Everyone who is employed in Germany and earns more than 450 Euros per month is automatically part of the social security system. This system provides benefits across a number of domains, including for example: unemployment insurance, health insurance, disability pension insurance, invalidity insurance.

Historical Background

The first OH services were introduced in the late 19th century, often on private initiatives and where they were most needed (e.g. in mining, large-scale chemical industries and steel production). These early OH services were usually provided as a company bonus to ensure a healthy and stable workforce, as were subsidies for meals and housing. In line with the available knowledge at the time, the services were primarily curative and not intended to ensure job fitness or early return to work in cases of sickness absence (Froneberg, 2007).

The growing body of knowledge in occupational medicine, industrial safety and prevention (alongside an increasing stakeholder interest; e.g. from the German Federation of Institutions for Statutory Accident Insurance and Prevention, trade unions, and the Association of German Company Doctors) led in 1973 to the formulation of the Act on Occupational Physicians, Safety Engineers and other OH and Safety Specialists. The Act established the employer's responsibility for the provision of OH services, required German employers to contract (or to hire) and fund OPs and safety specialists; and specified, in general terms, the complementary duties of all the professionals involved. The Act was implemented in detail by the sector-specific accident prevention regulations (Deutsche Gesetzliche Unfallversicherung, 2012) of the statutory accident insurance institutions. Originally, organisations with fewer than 20 employees were exempt under this Act from the obligation to procure an OP and safety engineer. At the time of its enactment, there were not the necessary resources in terms of specialised professionals to meet this requirement nationally. Therefore, the need to train and increase the number of such professionals was a key priority at this time. This exemption remained until 1995.

Ultimately, it was the translation of EU regulations (notably the Framework Directive in 1996) into German legislation, which paved the way for the general provision of comprehensive multidisciplinary OH services to all employees across all organisation sizes; excluding, however, the self-employed. The Framework Directive was adapted in a direct transposition in the Act on the Implementation of Measures of Occupational Safety and Health to Encourage Improvements in the Safety and Health Protection of Workers at Work (Arbeitsschutzgesetz, ArbSchG), albeit with the inclusion of the unchanged Act of Occupational Physicians, Safety Engineers and other Safety Specialists (Froneberg, 2007).

Legal & Policy Context

As mentioned above, OH service provision is legally mandated. The organisation of OH services is governed by the Occupational Health & Safety Act (Arbeitsschutzgesetz) and the Act on Occupational Physicians, Safety Engineers and other Occupational Health and Safety Specialists. Germany ratified the ILO

convention on OH services (no. 161) in 1994 and the Promotional Framework for Occupational Safety and Health (No 187) in 2010. The following section aims to provide an overview of the broader national-level policy context.

Germany has a comprehensive national system following the conventions of the International Labour Organization, with 83 conventions ratified, of which 74 are ratified by Germany (Froneberg & Timm, 2012). The Occupational Health & Safety Act is the primary German law on health and safety, and emphasises the preventive approach and universal coverage (inclusive of OH services) of all employees, in all company sizes, and in the public sector. It describes in detail the duties and rights of employers and employees with regard to health and safety (Larisch, 2009).

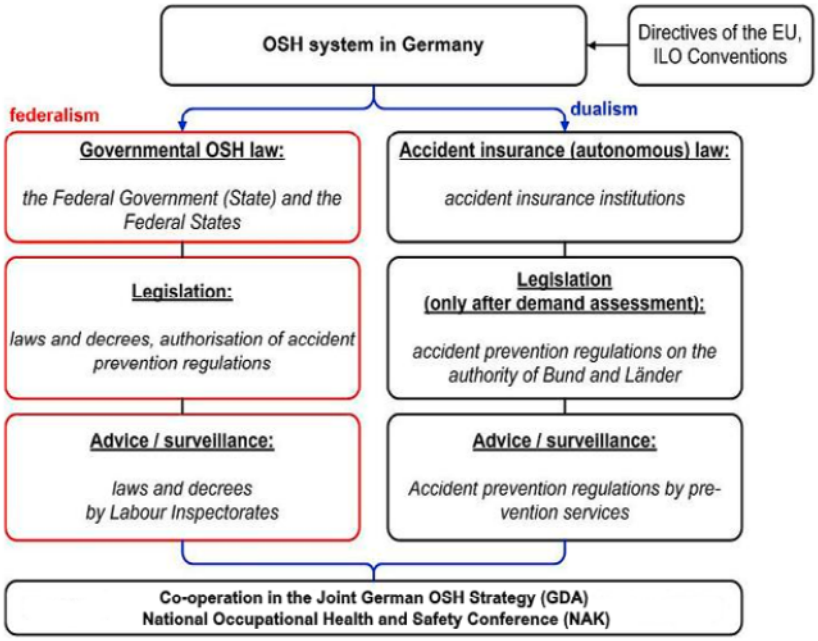
The 'daughter' directives of the Framework Directive, focusing on individual hazards and exposures, are all transposed largely by adaptation of previous corresponding legislation. The Act on Occupational Physicians, Safety Engineers and other OH and Safety Specialists sets out the duties of employers regarding the provision of OH services, including the minimum annual working time of OPs and OH and safety specialists for enterprises of various sizes in various sectors (Froneberg & Timm, 2012).

The Federal State enacts key laws and Acts, and oversees their enforcement. The Federal Ministry for Labour and Social Affairs prepares bills and regulations, usually in consultation with key stakeholders (Hotopp et al., 2008), including: federal states represented by the State Committee for Occupational Safety and Security Technology; the Association for Trade Unions; the Association of the Employers; the Associations of the Accident Insurance Institutions (e.g. Deutsche Gesetzliche Unfallversicherung); and professional associations. The inclusion of all these stakeholders exhibits the consensual style of decision-making that characterises the German policy context, where every crucial decision involves the active participation of all major stakeholders (Haunert, 2012).

The German national regulations and Acts are supplemented by accident prevention regulations, developed and implemented by social accident insurance institutions. Technical rules and standards further complement national regulations on a voluntary basis. Accident Insurance is the legal basis for social accident insurance at work (Kaluza, 2017). The enforcement of Accident Prevention Regulations, which are binding for employers and employees, is guaranteed through an inspection service of its own, with approximately 2,600 inspectors of the statutory accident insurance institutions. These inspectors have more or less the same rights as state labour inspectors. In cases of considered non-compliance, the company can be required to procure OH services of some statutory accident insurance institutions.

The implementation of legislation is monitored and enforced by inspection services, comprising some 3,000 federal-state labour inspectors and about 2,600 inspectors of the statutory accident insurance institutions. Coordination between the different federal states is ensured through common legislation and through a common platform (the National OSH Conference). The interplay between state-level inspection authorities and the inspection and supervision services of the accident insurance institutions forms the "dual OSH system of Germany" (Froneberg, 2007; Kaluza, 2017). Federal-state and insurance inspectors will usually coordinate their work, avoid duplication, and keep each other informed by exchanging written records and often personal communication (see Figure 4).

Figure 4. OSH system in Germany (legal framework; Federal Institute for Occupational Safety and Health (BAuA), 2017)

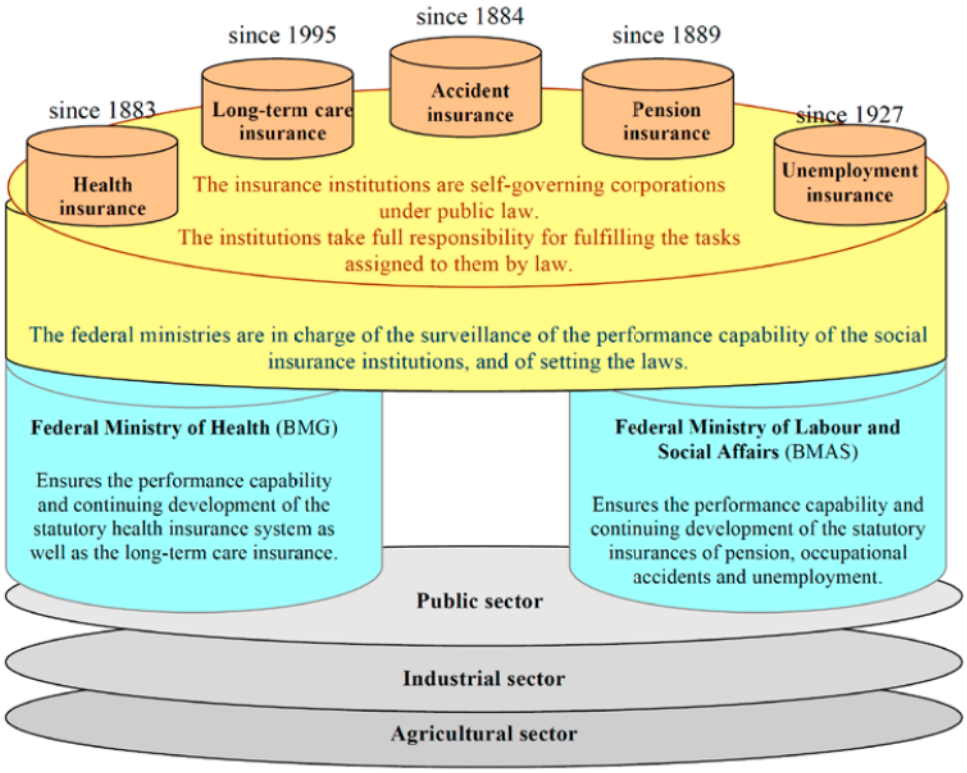


Healthcare & Social Security System

Germany does not have a national healthcare system. Healthcare is administered through several autonomous bodies and associations, such as: the statutory health insurance system (covering more than 90% of people in Germany), the association of physicians under contract with the statutory health insurance (i.e. all non-private primary and secondary care physicians), the hospitals association, and others. German citizens are automatically and compulsorily insured on entering employment, if their regular income before deductions exceeds €450 per month and remains below a set annual limit (€62,550 in 2020). A variety of public and private health insurance schemes are available. Those who lack statutory health insurance receive equivalent care through the social assistance agencies.

The German social security system is comprehensive, consisting of the classical five pillars of health, pension, accident, long-term care and unemployment insurance. This system covers more than 90% of the population (Gruber & Wise, 2000), and has evolved over the years (see Figure 5). Employees who meet the earnings eligibility criteria and students are compulsorily insured against occupational accidents and occupational diseases. Those who do not meet criteria are, however, not insured. In addition to their preventive activities, the accident insurance institutions provide medical and occupational rehabilitation, and compensation for those suffering from occupational diseases.

Figure 5. German social insurance system (Froneberg & Timm, 2012)



The German approach to workers' compensation is a compulsory, no-fault and pay-as-you-go system, with self-governed statutory accident insurance institutions funded solely by employers' contributions, providing a comprehensive prevention, rehabilitation and compensation service (Froneberg & Timm, 2012). In Germany, an employee is generally entitled to receive sick pay amounting to 100% of his or her salary for up to six weeks at 100%. The German national health insurance compensates smaller employers (< 30 employees) for 80% of sick pay.

Where an illness lasts longer than six weeks, the employee will receive a sickness allowance from the national health insurer, amounting to 70% of the employee's salary for a period of up to 78 weeks, with a maximum monthly sum of 2877 Euros. The situation is more complicated if the employee suffers from numerous different illnesses and/or returns to work before getting ill again.

An employee must inform their employer immediately of an absence because of illness. If an employee is sick for more than three days, they must provide their employer with a doctor's note (although the employer can ask the employee to hand in a doctor's note earlier than this without having to give reasons (Marte et al., 2015).

Occupational Health Service Model

OH service provision is specified by law in this national context, with such services provided under free market conditions that do not form part of a public health scheme or national health service. Since 2004, all German enterprises have been covered by OH services, contracted and financed by the employer (Froneberg, 2007). More specifically, employers are required by law to organise OH services for their employees. These are usually provided by self-governed statutory accident insurance institutions, which are funded solely by employers' contributions and which provide

comprehensive prevention, rehabilitation and compensation services. In general, OH services in Germany are provided by: in-house services (typically in larger organisations); contracted external services from the Association of German Accident Insurance Funds; other local, regional or nationwide services in private ownership; or by independent OH professionals. All operate in accordance with the minimum time specifications of the insurance fund in charge of the company, and exclusively on demand in the case of micro-enterprises. Germany is estimated to have near comprehensive coverage of workers to OH services (Froneberg & Timm, 2012).

Employers are required to appoint OH (and safety) professionals and an OP to advise on workplace health and safety matters and support these professionals in the delivery of OH services. These experts can be internally employed or hired from professional externally-contracted services. Some social accident insurance institutions also offer occupational safety and medical services in some sectors (e.g. construction, hotel, restaurant, and food processing industries).

The Act on Occupational Physicians, Safety Engineers and other OSH Professionals defines the appointment, remit and tasks of such professionals. Employers must provide this professional with the resources they need to perform their duties (e.g. additional staff, rooms and equipment), and the opportunity for them to participate in further training as necessary to fulfil their duties. This Act also outlines the duties of an OP (detailed further in the next section).

Occupational Health Services Staffing

Apart from contract services provided by a single independent professional, OH services are usually multidisciplinary, offering specialist interventions from an increasing number of professions. All major OH service organisations employ at least an OP, a safety engineer and a psychologist. However, the range of the services on offer increases with the size of the enterprise. OH service organisations operate entirely on their own account under free market conditions, therefore information on the number of the various groups of OH professionals (e.g. OP, safety counsellors, occupational hygienists, psychologists, physiotherapists, trained assistance staff) is lacking.

Employers can only appoint persons as OPs who are licensed to practice medicine, and who have the expertise in occupational medicine required to fulfil the duties assigned to them (see outlined duties below). OPs are registered with the Federal Chamber of Physicians after they have finished their training. In 2003, there were 12,236 registered OPs. Around a third were full specialists, with the remaining registered physicians specialising in other fields (e.g. general or internal medicine), but with minor training in OM (Froneberg, 2007). In Germany, there is a shortage of OPs. Consequently, there has been a national effort to increase the involvement of other professions in the delivery of OH services, such as medical assistants.

The Act on Occupational Physicians, Safety Engineers and other OSH Professionals outlines four key duties for OPs:

- First, to support employers in all matters to do with health protection and provide guidance to the employer on: planning and maintenance of working conditions; procurement of work equipment; introduction of work processes and systems; selection of personal protective equipment; issues associated with the physiological and psychological aspects of work and other ergonomic and industrial

hygiene matters; organisation of first aid; issues concerning a job change and the integration and re-integration of persons with disabilities into the work process; the assessment of the working conditions.

- Second, to examine workers, to assess them and offer them guidance in terms of occupational medicine and to record and evaluate the results of such examinations.
- Third, to monitor the implementation of the occupational safety and health and accident prevention measures, including: inspect and monitor workplaces and propose necessary prevention or management measures; check personal protective equipment is being used; examine the causes of job-related illnesses and record and evaluate the results of these examinations; and propose prevention measures to the employer.
- Finally, to make efforts to ensure that all workers act in accordance with the requirements of occupational health and safety legislation, to provide workers with guidance to prevent and mange risks they may be exposed to, and to co-operate in the scheduling and training of 'first aid' assistants in the workplace.

Periodic health examinations are obligatory for employees exposed to hazardous substances. The following types of health examination are conducted by an OP: pre-employment health examinations; special health examinations for workers in hazardous jobs; health examinations when returning to work after a long period of sick leave; continuous health examinations for assessing working ability; and health examinations after retirement from an especially hazardous job.

Specialisation in occupational medicine requires five years of training. Requirements for board certification requires: 24 months' training in internal medicine or general medicine, 36 months' training in occupational medicine, and 360 hours of theoretical instruction (as part of the five-year education period) at one of seven licensed training institutes. In addition, a minor qualification model (company medicine) is recognised for specialists in other areas of patient care. For medical professions (e.g. nurse, medical secretary, technical medical assistant) specialisation as OM assistants requires participation in six weeks of training. This is, however, not regulated (Froneberg & Timm, 2012).

Employers' Role

As discussed in the sections above, employers are obliged by law to organise OH services for their employees (Westerholm, 2007). As stated previously, the employer is responsible for sick pay; but they also have key responsibilities in supporting the reintegration of employees following long-term sickness absences.

More specifically, the employer is obliged to pay for sick leave due to non-occupational diseases and injuries for up to six weeks. From the beginning of the seventh week such payments are covered by Gesetzliche Krankenversicherung – Statutory Health Insurance, which generally pays 80% of a worker's salary. If a return to work is not possible after 78 weeks, the sick employee will be retired under the pension insurance scheme (Froneberg & Timm, 2012).

As stated previously, there is an obligation on German employers to assist with occupational rehabilitation of employees with a long term sickness absence (Social Security Code IX), and to make the necessary workplace adjustments. This broadly includes providing disabled employees or those with a long-term illness:

- Employment according to skills and abilities;
- Preferential selection for training within the company;
- Financial support and necessary resources (e.g. time off work) to attend training delivered outside the workplace/ off-site; Providing work assistance where required;
- Ensuring the right to part-time employment and adapted working conditions (OECD, 2010).

All employers with a workforce greater than 20 employees are required to fill 5% of their jobs with employees with severe disabilities, in accordance with their skills and abilities. Non-compliance results in a monthly penalty for each unfilled compulsory place. The revenue is used for employment benefits for disabled people and their employers.

Employers have a role and responsibilities to support employees on long-term sick in their return to work process. In Germany, if an employee is sick for more than six weeks during a 12-month period, an employer must invite them to a meeting to discuss the situation and his/her re-integration following their absence from work. The purpose of such a meeting is to discuss in what way the workplace has influenced the absence of the employee, and determine whether the employer can make any changes and help to improve the employee's health and work capacity. The employee is not required to attend the meeting or give any details regarding his/her illness, but their lack of participation could be viewed unfavourably if the employee wished to commence legal proceedings (Martel et al., 2015). Hoge, Ehmann, Rieger, and Siegel (2019) found that only 50.9% of organisations they surveyed in Germany fulfilled all of the legally required measures surrounding 'reintegration management'. These findings suggest that a continued gap exists in practice among employers in meeting this legal obligation (Hoge, Ehman, Rieger, & Siegel, 2019).

German employers have clear duties in relation to occupational health and safety (e.g. risk assessment and management). However, workplace health promotion is not mandatory for German employers. The institutional responsibility for providing workplace health promotion rests entirely with the statutory health insurance funds, and not with the OSH authorities or other public agencies (Froneberg & Timm, 2012).

System Impact & Evaluation

The national downward trend on classical occupational health and safety indicators, such as accident and disease rates, is continuing and can reasonably be related to both successful prevention and a steady decrease in traditional hazards in the work environment (German Federal Institute for Occupational Safety and Health, 2017). However, in recent years there has been an increase in the number of sick days taken by workers in Germany (an estimated 60% rise; 2008 to 2016), especially those to do with mental health complaints. More than one out of three (37 %) employees in Germany took sick leave at least once in the first six months of

2015. On average, people were out of work for 7.9 days. The most common reason for sick leave is related to back pain and other muscular-skeletal problems (DAK-Gesundheit,[28] 2016).

Mechanism of Systems

- OH service provision is specified by law in this national context, with such services provided under free market conditions and not forming part of a public health scheme or national health service.
- Employers must organise and fund OH services for their employees. These services can be in-house, externally contracted, or provided by self-governed statutory accident insurance institutions. These services provide comprehensive prevention, rehabilitation and compensation services.
- German employers have specified duties to support the workforce reintegration of employees with long sickness absence spells.
- OH services are multidisciplinary, offering specialist interventions from an increasing number of professions. Like in many other national contexts, the OP plays a central role in the delivery of OH services.
- Close cooperation among the various relevant actors in OH, especially the prevention-minded occupational accident insurance institutions and the labour inspection authorities, supported by active social partner associations.

Lessons Learned

- A prominent feature of developments in Germany is a visible state commitment to the use of quality systems for OH services, and for programmes to improve the competences of OH professionals. These include: the development of quality criteria; a quality assurance audit instrument; the training of auditors; and the foundation of two audit associations, the Association for Quality Assurance in Occupational Healthcare (GQB) and the Association for Quality in Occupational Safety (GQA). OH service participation in these audits is voluntary.
- Germany is a good example of successful integration of OSH tasks and duties into the social security system, managed through the interplay between state-level inspection authorities and the inspection and supervision services of the accident insurance institutions, which form the “dual OSH system of Germany”, and enable the provision of comprehensive prevention, rehabilitation and compensation services.
- A key priority for the future is the promotion of mental health and well-being, the prevention of mental disorders and the improvement of care and social inclusion of people with mental disorders in Germany (e.g. Quality of Work Initiative;[29] Federal Ministry of Labour and Social Affairs, 2011).

[28] Statutory health insurer.

[29] The Quality of Work Initiative is a joint undertaking of Germany’s federal government, state governments, social insurance partners, social partners, foundations and enterprises, and was launched in 2001 by the Federal Ministry of Labour and Social Affairs. It is clear from the initiative’s joint activities that investing in human capital pays off in the form of motivated employees, falling absenteeism rates and an innovative corporate culture.

Australia

Key Features

- OH service provision is voluntary, outsourced, and market-driven.
- Strong focus in Work Health & Safety Act on mental health in the workplace. Currently developing a national standard for psychological health and safety in workplaces.
- Employer duty to return employee to work.
- Use of employer incentives to support return to work initiatives.
- Recent policy context in Australia is characterised by a legal harmonisation process.

National Context

The population of Australia is 24,667,753.[30] Australia is a federation of six states and two territories. Trend estimates indicate the number of employed Australians has increased by 2.6% in the past year; although the overall trend in workforce participation has remained steady at 65.6%. 563,600 Australians (estimated 4.2% of working population) experienced reported a work-related injury or illness during 2017 to 2018 (Australian Bureau of Statistics, 2018).

Australians with a disability are twice as likely to be unemployed as people without a disability (10% for those with a disability, as compared to 5.3% without; Australian Bureau of Statistics, 2012). Compared to other OECD countries, Australia has one of the lowest rates of employment participation for people with a disability. (OECD, n.d.). Consequently, Australia ran a National Disability Strategy (2010-2020), that aimed to increase access to employment opportunities of individuals with disability. In 2015, Australia's Attorney-General commissioned the Australian Human Rights Commission to undertake a national inquiry into employment discrimination against older Australians and Australians with disability. The inquiry report ("Willing to Work"; Australian Human Rights Commission, 2016) was published in 2016 and outlined numerous systematic barriers to employment for people with disability.

Like many other western countries, there is a growing prevalence of mental health problems at a population level. In 2017-2018, one in five adults (20.1%) had a mental or behavioural condition, an increase (+2.6%) from 2014-2015. The observed increase was predominately to do with anxiety-related conditions and depression (Australian Bureau of Statistics, 2018). From 2003 to 2010, mental health conditions had the highest rate of 'unfit for work' certificates issued by GPs among six common categories of work-related conditions (Collie et al., 2013).

In 2015-2016, 87% of injured workers had returned to work at some point since their injury and or illness (Social Research Council, 2018). Dolllard et al (2012) estimated the cost to Australian employers due to sickness absence and presenteeism was $9 billion per annum; $693 million per annum of this is the result of job strain, incivility

[30] Australian Bureau of Statistics: Population Clock. See www.abs.gov.au (date 4/24/2020)

and bullying in the workplace. The cost of unemployment benefits, in contrast, is estimated to be in the region of $6.1 billion per annum in the 2010-2011 financial year (Australian Institute of Health and Welfare, 2013).

Historical Background

Australia's first work health and safety legislation was enacted in 1854 to regulate the conditions in New South Wales coal mines (Smith & Leggat, 2004). Following this, the public consciousness regarding the human impact of poor working conditions continued to grow, as did the legislative measures. The early 20th century saw significant developments in the regulation of health and safety at work, with an upsurge in OH interest by Australian governments. By the 1920's the Australian government began to conduct several surveys of workers, seeking to examine OH. In particular, this work sought to monitor the occupational health of miners (Smith & Leggat, 2004). Concurrently, in 1922, Australia's first Bureau of Medical Inspection was formed.

During the 1970's, an overall downward turn in manufacturing and wages restraint encouraged trade unions to turn their attention to broader social issues, including workplace health. Interest in OH flourished during this time. The 1970s saw the beginning of formalised education in the OH field, with a notable growth in tertiary courses during the 1980's. Historically, the Australian states and territories have their own occupational health and workers' compensation legislation. The exception to this is federal employees who are covered by federal legislation. This historic system remains to the present day.

Historically, each Australian state adopted most of the provisions of the 19th century British health and safety legislation (particularly the 1878 Factories Act, and later the 1901 Act), so that by 1970 each of the six states had a work health and safety statute implementing the traditional British model of regulation. By the late 1960s, the weaknesses in this traditional model, based as it was on the British model and coupled with political and economic developments, created a policy environment in which the recommendations of the 1972 British Robens Report appeared attractive.

The Robens report proposed a modification of the regulatory model, based on two principal objectives, each of which responded to the criticisms of the traditional model. First, was the streamlining of the state's role in the traditional regulatory system, through the "creation of a more unified and integrated system". This involved bringing together all health and safety legislation under one umbrella statute that sought to outline "general duties". These skeleton, statutory, general duties were to be elaborated with standards in regulations and codes of practice.

The second objective, recognising the practical limitations of external state regulation, was the creation of more effectively self-regulating systems. The Robens report vision for self-regulation involves workers and management, at workplace level, working together to meet and improve upon the health and safety standards prescribed by the state. The importance of employers consulting with their employees and/or their representatives; and encouraging their active participation in the development of such measures, was strongly emphasised. All the statues across Australian jurisdictions are based on the UK Robens model (Australian National University, 2017).

In recent years, the legal framework underpinning workplace health and safety is working towards a harmonisation process at the national-level. Considerable progress has been made in the harmonisation of Australian legislation around occupational health and safety, particularly in the jurisdictions that have adopted the national Model Act and accompanying regulations (Australian National University, 2017).

Legal & Policy Context

The provision of OH services is not legally mandated in the Australia states and territories. In 2004, Australia ratified the ILO's Occupational Safety and Health Convention, but not the OH Services Convention (No. 161) or the Promotional Framework for Occupational Safety and Health (No. 187). The current section aims to provide an overview of the policy context, and highlight key legal documents that directly or indirectly support OH care and management.

Australia underwent a legal harmonisation process in relation to workplace health and safety legislation, the aim of which was to integrate and co-ordinate state-level systems, processes and provisions. In 2011, Safe Work Australia developed a single set of work health and safety laws to be implemented across Australia. These are known as 'model' laws. For the model occupational health and safety laws to become legally binding, each state and territory must separately implement them as their own laws. These 'model' laws are also accompanied by a suite of codes of practice. While considerable progress has been achieved in relation to the harmonisation of Australian occupational health and safety legislation, there remains some areas and jurisdictions that have not adopted the national model Act and regulations.

In general, the work health and safety 'model' laws aim to provide all Australian workers with the same health and safety protection, regardless of job, task or sector. The work health and safety 'model' laws provide a framework to protect the health, safety and welfare of all workers at work, and of other people who might be affected by the work. These 'model' laws do not directly address the delivery of OH services. The accompanying regulations (2011; updated in 2016; Parliamentary Counsel's Committee, 2016) to the suite of proposed laws set out detailed requirements to support compliance of such laws, which includes 19 approved codes of practice. These codes of practice are not law, but they can be used in court proceedings to support prosecution. No published Codes of Practices, however, provide guidance on the delivery, organisation or provision of OH services.

The plan from the outset of this harmonisation process was to review the proposed suite of health and safety laws regularly, and to evaluate how it is operating in practice and whether it is achieving its specified aims and objectives. This review was completed in 2018.[31] This independent review concluded that the harmonisation process was largely operating as intended. However, a number of recommendations (36 in total) were made to further enhance this legal model framework, including, for example, regulations on psychological health (Boland, 2018).

Safe Work Australia is tasked with the development of policy to improve work health and safety and workers' compensation arrangements across jurisdictions (2016). The enforcement within each jurisdiction is overseen by the state-based agencies,

[31] See https://www.safeworkaustralia.gov.au/law-and-regulation/model-whs-laws/review-model-whs-laws/review-model-whs-laws-terms-reference

which in most states are separate for occupational health and safety and workers' compensation. It is the occupational health and safety state-based agencies that regulate these activities, not the compensation agencies. However, in the state of Victoria these two agencies are integrated into one agency.

Healthcare & Social Security System

Healthcare in Australia is delivered as a mixed system with universal health coverage under Medicare. This system is provided by both the publicly funded (e.g. hospitals and primary healthcare) and private sector (e.g. private hospitals). Medicare is Australia's universal healthcare system, which subsidises many medical costs. However, there appears to be an ever increasing gap in terms of what medical costs are and are not subsidised. All Australian citizens and permanent residents are covered under this scheme. Medicare is financed by a levy, which is compulsory and administered through the personal tax system.

The national social security programme provides support for working age individuals who are not able to work due to disability, illness or injury. Support for these individuals, beyond that offered through Australia's universal healthcare system, may be received through: government funding schemes/ benefits; workers' compensation systems; and from their employer directly.

There are several schemes, funded by the government, including: the Disability Support Pension, the Australian National Disability Insurance scheme, and sickness allowance.

- Australian residents of working age who are unable to work for 15 hours a week for the next two years are eligible to receive financial support through the Disability Support Programme. Claimants must provide a report from their treating doctor.
- The Australian National Disability Insurance Scheme is a government scheme that funds costs associated with disability. This schemes entitles people with a "permanent and significant" disability (under the age of 65) to receive funding support for their disability (subject to certain restrictions). The scheme is entirely publicly funded. Recipients do not purchase or contribute to an insurance policy, nor is funding means-tested. There is also the RecruitAbility Scheme, which is a scheme offered by the government that aims to attract and develop applicants with disability.
- Australians who are temporarily unable to work due to illness, injury or a short-term disability may be eligible for *sickness allowance*. The amount they receive may range from $504.70 (fortnightly payment; claimant with partner) to upwards of $604.70 (e.g. single claimant with dependent children; Australian Government, 2020).
- The number of individuals receiving sickness allowance support from the government in March 2018 was 6,046, and 75,703 received a disability support pension). This is a slight decrease from government records from two years prior: 7,683 and 77,644, respectively (Australia Government 2020).

Sick leave is deemed a type of personal leave under the National Employment Standards. Full-time employees are typically entitled to 10 days' paid personal leave per year, although, this period can vary under different awards and industry sectors. Part-time employees receive a pro-rata entitlement to sick leave, based on the

number of hours they work. Paid personal leave accumulates from year to year. An employee can take as much paid sick or carer's leave as they have accumulated. There is no minimum or maximum amount of paid sick or carer's leave that can be taken at a time (Fair Work Act 2009).[32]

Each jurisdiction has developed its workers' compensation system; there are 11 main workers' compensation systems. In general, most organisations use the legislation in their state jurisdiction. Although such systems and their underpinning laws are similar in many regards, there do exist some differences with varying levels of coverage (see Safe Work Australia (SWA), 2017 for review). The workers' compensation is a 'no-fault' compensation system. To qualify, workers are required to prove that injuries or harm sustained were work-related (i.e. arising from work or during the course of work), which depending on the condition can be particularly challenging to prove (e.g. stress at work and mental health conditions). Current Workers' Compensation Law requires employers to take out insurance to fund potential liability for workers injured, harmed or diseased at work; albeit some larger employers are self-insurers. The types of compensation and entitlements that can be claimed under most workers' compensation systems include: medical expenses; income replacement payments; costs associated with rehabilitation and related programmes; costs associated with retraining for other employment duties; lump sum payment for permanent disability; and death benefits. Some jurisdictions offer provisional liability to allow for benefits and payments before a decision is made on whether a claim has been successful (SWA, 2018). Most jurisdictional workers' compensation legislation contains a number of exclusionary provisions. For example, statutory threshold requirements for psychological injuries vary significantly from physical injuries across workers' compensation schemes.

Occupational Health Service Model

There is no nationalised system of OH for workers. The system of OH service provision is voluntary and is typically outsourced and market-driven in nature. However, many larger employers have their own in-house OH service. An estimated 50% of workers have access to some form of OH service (Safe Work Australia, 2017). Within the wider national-level system, ill, impaired or disabled workers may receive support and services through other key areas. This, broadly, includes through the national healthcare system, workers' compensation systems, and through various social security programmes and measures. The provision available through the healthcare system and social security program were discussed in the previous section. This section will primarily focus on the in-house or externally contracted services and those offered through workers' compensation.

Traditionally, much of the underlying focus of OH practice in Australia has primarily been on repair and restoration, rather than prevention or health promotion (Thompson, 2011). Many OH services in Australia are externally contracted (Thompson, 2011). However, many larger organisations offer in-house OH services. Access to and use of such services is typically funded by the organisation or its insurance company. The coverage of such services could not be identified in the

[32] See Fair Work Ombusman (n.d.) Sick and Carer's Leave. Available at: https://www.fairwork.gov.au/leave/sick-and-carers-leave

reviewed literature (Thompson, 2011). Workers may also access medical treatment or vocational rehabilitative services through their own health insurance (if they have it) or may have to self-fund access to services and professional support.

Some basic provision for OH care and management may be accessed through the workers' compensation system within that jurisdiction. However, such services will vary by state and are dependent on whether the injury or illness experienced by the worker meets qualifying criteria for the condition they are submitting a claim for, as specified in local-level legislation. For example, in regards to mental health problems at work, workers' compensation laws vary in operation and application in each jurisdiction across Australia. However, typically claimants (if their claim is successful) may receive weekly payment for time lost from work[33] and claiming for treatment expenses.

When a worker is injured at work or ill they can use a treating doctor of their choice, typically their GP (Thompson, 2011). An estimated 96% of injured workers see their GPs initially (Dembe et al., 2003). Communication to the employer and insurance company is by the certificate of capacity, which is issued by a medical practitioner (usually the treating doctor). The content of the certificate encourages the doctor to outline what duties the worker should be restricted from performing. One exception is the state of Victoria that asks medical practitioners to complete the certificate based on the workers' capacity. A limitation of such a system is that often treating doctors do not have a global view of working conditions, only those discussed or highlighted by the injured or ill worker. Consequently, such limited and detailed knowledge may have an impact on the effectiveness, or indeed suitability of, the injury management plan. However, it is important to note that Safe Work Australia released late last year a national Return to Work Strategy (2020-2030), which seeks to support workers to remain in and return to work following illness and injury, and to support all key actors in the process (e.g. GPs, employers, managers, etc.).

Occupational Health Service Staffing

GPs play a central role in issuing a certificate of capacity, but may also be involved in: providing medical treatment and medication; recommending periods of time off work; giving advice on compensable medical and care treatments necessary for recovery; and making decisions that impact on the liabilities of compensation agencies (Brijanth et al., 2014).

OPs work in a range of settings, often with multidisciplinary teams, involving referral from and collaboration with a wide range of health professionals. Referrals to OPs typically come from GPs, paramedical health professionals, employers, insurance companies and unions (Australasian Faculty of Occupational and Environmental Medicine, n.d.).

Work in private practice or for independent health services is common for OPs (Donoghue, 2008), where they provide a range of services, including patient treatment, workplace assessments, health surveillance and supervision of vocational rehabilitation. OPs also provide independent medical opinions on issues such as the

[33] In the state of Victoria, for example, the claimant's weekly payments will be based on their pre-illness average weekly earnings, entitlements to sick leave, annual leave and redundancy payments. They must get a so called "Certificate of Capacity" if they wish to claim for weekly payments and complete a worker's claim form.

worker's fitness to perform certain work duties, or the work-relatedness of a worker's condition. They may also perform worker impairment assessments, provide advice to companies on issues such as illness or injury prevention strategies, and support the management of sickness absence (Australasian Faculty of Occupational and Environmental Medicine, n.d.).

The training period for OPs in Australia is generally 4 to 5 years of further professional training in occupational medicine (Thompson, 2011), following the completion of their medical degree (6 years). This is run by the Australasian Faculty of Occupational and Environmental Medicine, and is a multifaceted program comprising of both formative and summative assessments. There is a two-part exit examination.

The Australasian Faculty of Occupational and Environmental Medicine (AFOEM) is the specialist academic body for occupational medicine for Australia and New Zealand. Fellowship of the Faculty has become recognised as the specialist qualification. AFOEM is actively involved in the provision and management of continuing professional development in OM. The number of OPs nationally remains low. However, there appears to be growth in the number of specialists in recent years: 322 in 2011 (Thompson, 2011), 523 (425 Fellows and 98 trainees) as of June 2019.[34]

An Australian OH Nurses Association was disbanded in 1992, and the Australian College of OH nurses appears to be dormant. However, OH nurses are now part of the Australian and New Zealand Society of Occupational Medicine (ANZSOM). ANZSOM does provide some information on the role of nurses, but there is no formal accreditation system or set qualifications for these professionals. Typically, nurses become OH nurses through experience. OH nurses mostly work under the supervision of OPs. While both OPs and OH nurses do work within multidisciplinary teams, there is no available information on the role, scale and qualifying standards surrounding such professions (Thompson, 2011).

Injured or ill workers may receive support from return to work practitioners. These practitioners co-ordinate with the employer and the treating doctor, but may also provide some level of assessment (e.g. ergonomic) of the workplace. Such practitioners may be from a variety of disciplines, such as psychology, physiotherapy, or occupational therapy (Thompson, 2011).

Employers' Role

While there are variations in duty of care obligations across Australian states and territories, there are many key features. Employers have a primary duty of care to their workers through the execution of various risk assessment and management procedures, and consultation with their employees, their representatives and other duty holders (Safe Work Australia (SWA), 2016).

In 2018, SWA published national guidance materials on work-related psychological health and safety aimed at employers. Currently, work is underway to develop a national-level standard in this domain. This guidance outlines a systematic approach for employers to meet their legal obligations to ensure the psychological health and safety of their employees. This approach advocates actions in three key domains:

[34] See: https://www.racp.edu.au/

prevent harm (identify and manage risks at work); intervene early (implement control measures and support workers at increased risk); and support recovery. In regards to supporting recovery, employers should: support early access to rehabilitation services, generally from the time the claim is lodged; support timely and sustainable recovery at work or return to work, through effective consultation and addressing the remaining risks that may be exacerbating the injury; and review the effectiveness of control measures to ensure further harm or new injury does not occur. Safe Work Australia's Return to Work Strategy (2020-2030) will provide employers with further support and guidance in this process.

Employers must ensure that all employees are covered by workers' compensation insurance, and have a documented rehabilitation policy describing the steps to be taken if a worker has a work-related injury. Employers must assist the employee to return to work safely in the event of illness or disability. There is a duty by the employer to consult with affected workers and their health and safety representatives during this process. The employer is required to communicate with the treating doctor in regards to issues surrounding fitness for work, and to have an injury management plan in place. More specifically, the employer is obliged to develop, or be involved in the development of, the worker's return to work plan and comply with the obligations described in the plan. Employers are obliged to provide suitable meaningful duties, as far as reasonably practicable, when a worker is able to return to work, either on a full-time or part-time basis. The development and management of such a plan can be organised in-house, or can be contracted out to injury management consultants (Thompson, 2011). There are variations across jurisdictions on whether employers are obliged to hold the injured worker's former position open, ranging from no (Northern Territory) to upwards of 52 weeks (Victoria; SWA, 2017). Australian employers are obliged to accommodate work or the workplace for employees with a health impairment or disability, as well as keeping the job available for a reasonable period of time under the Australian Equal Opportunity Act, 2010. Employers can apply for funding support through the Workplace Modifications Scheme – an Australian Government fund – to help cover the cost of accommodating workers with disability.

Further support is provided to employers through various key schemes. For example, the Australian JobAccess Programme and Disability Employment Services programme. The JobAccess Programme aims to educate employers on the benefits of employing people with disabilities and on the kinds of support that are available to support them. More specifically, it seeks to support employers through providing free expert advice and access to adaptation grants. This programme also provides a number of provisions and supports for people with disabilities directly, to support access to the labour market. Available evidence suggests that this programme has been received well by its target audience (Green & Campbell, 2016).

The Disability Employment Services providers are a mix of large, medium and small, for-profit and not-for-profit organisations that support people with disability, as well as provide assistance to employers to put in place practices that support the employee in the workplace. DES has two parts: *Disability Management Service* is for job seekers with disability, injury or health condition who need assistance to find

a job and occasional support to keep a job. *Employment Support Service* provides assistance to people with permanent disability and who need regular, ongoing support to keep a job.[35]

Smaller Sized Companies

Small businesses account for more than 95% of all Australian businesses and are responsible for the health of approximately 4.8 million workers (Safe Work Australia, 2018b). The provision for such companies appears to be predominantly based on raising awareness and providing information. For example, Work Safe Australia provides small companies with online information regarding their legal roles and responsibilities. Much of the information presented focuses on safety-related issues. These smaller companies have, in general, limited access to OH services, return to work advice and, in turn, limited ability to provide injured or ill workers with alternative jobs following the return to work. Consequently, smaller companies are viewed nationally as a priority group. Initiatives such as JobAccess (see above) may be useful tools for smaller sized companies in active and supportive disability management. However, the impact of this tool for this group of enterprises remains unknown.

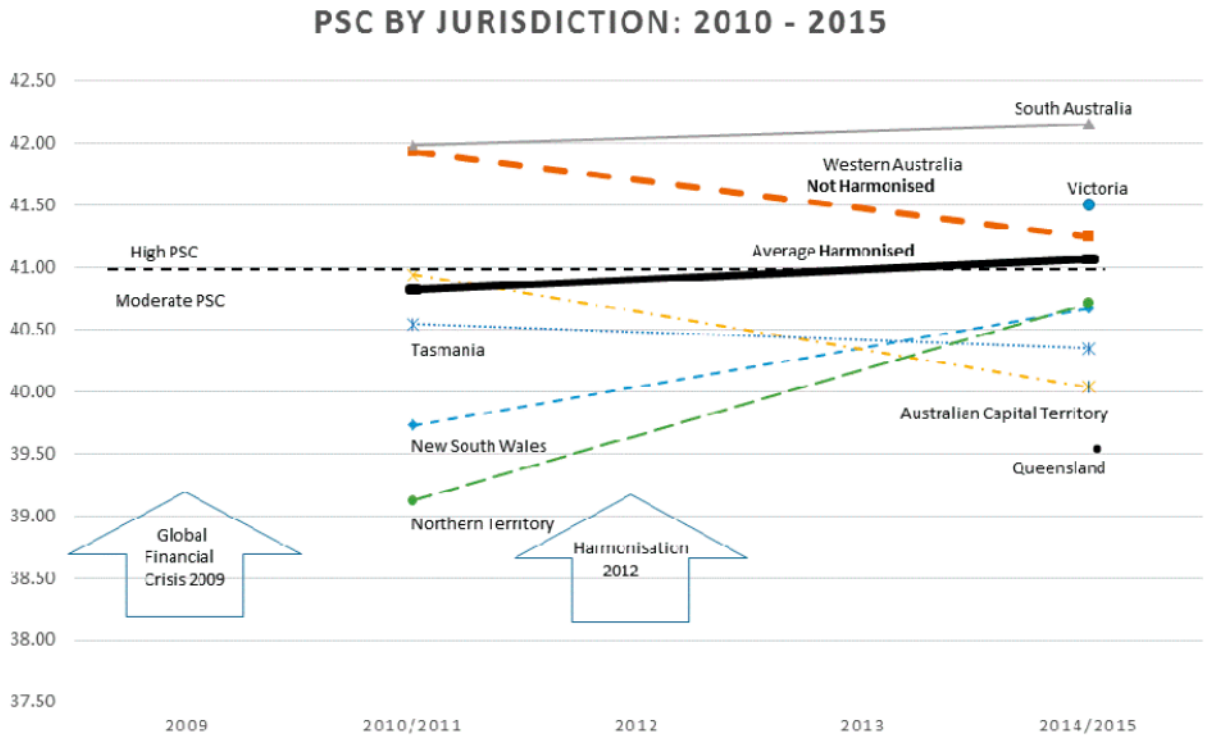
System Impact & Evaluation

In 2015-2016, 87% of injured workers had returned to work at some point since their injury and or illness (Social Research Centre, 2018). In general, there was a decreasing trend in workers' compensation claims in relation to musculoskeletal disorders, infectious and parasitic diseases, respiratory diseases, contact dermatitis, and cardiovascular diseases. Those related to occupational cancers and noise-inducing hearing loss have remained stable during this period. However, the rate of claims for mental disorders has been decreasing from its peak in 2002-03, but more recently have been observed to be increasing. Since 2008-09, the rate of claims has broadly remained stable (Safe Work Australia, 2016). However, there appears recent evidence that such claims are increasing once more. Work Safe Australia reports that annually there are over 7000 Australians that are compensated for work-related mental health conditions, equating to around 6% of workers' compensation claims. It is estimated that AUS $543 million is paid in workers' compensation for work-related mental health conditions. Safe Work Australia highlights mental health conditions as a key area of concern nationally.

A study by Potter et al. (2017) sought to evaluate the impact of harmonisation of occupational health and safety policy related to employee health in Australia. The findings of this study observed that within harmonised jurisdictions, employees felt that the organisational climate towards supporting their psychological health increased significantly over time (see Figure 6). The current study demonstrates important, and statistically significant, trends over time.

[35] See: https://www.dss.gov.au/our-responsibilities/disability-and-carers/programmes-services/disability-employment-services

Figure 6. Psychosocial safety climate[36] by jurisdiction (2010-2015), both prior to and following the legal harmonisation process (Potter et al., 2017)



Mechanisms of System

- There have been national level efforts to harmonise health and safety law across Australian jurisdictions.
- At the policy level there has been a number of policy initiatives aimed to support ill or impaired workers return and remain at work (e.g. National Return to Work Strategy), and to support the increased employment of individuals with disabilities (National Disability Strategy). A number of social security programmes exist to provide support to employers and employees: RecruitAbility scheme and the Australian JobAccess Programme.
- There are several initiatives that support employers' iniatives to support employees' return to work (e.g. Australian JobAccess Programme and Disability Employment Services programme. Some of these initiatives have been supported by providing incentives for employers through subsidies.
- Workers' compensation bodies play a central role in supporting workers' health, safety and welfare following sustained injury or harm. However, the conditions which are compensated and what services are offered varies across jurisdictions.

[36] Psychosocial safety climate refers to the organisational climate that pertains to employees' psychological health.

Lessons learned

- GPs play a central role in supporting injured or ill-workers. Typically, through issuing the certificate for capacity. However, many argue treating doctors don't have a global view of working conditions, limiting effectiveness or suitability of injury management plans.
- Australia is currently developing a national-level standard in psychological safety at work. They are part of a very small number of countries that have sought to implement such a policy.
- There is strong national –focus on supporting effective return to work enhanced workplace strategies and practices (e.g. National Return to Work Strategy 2020-2030).

Finland

Key Features

- OH service provision is specified by law, offering near comprehensive cover by OH services.
- Specialist and continuous training for medical education is well organised in Finland.
- Multidisciplinary OH services are paired with strong regulations and a prevention-orientated focus.
- The 'Good OH Practice Guide' supports OH organisation and delivery, while ensuring strong alignment to national priority areas.
- The 30-60-90-day rule and partial sick pay benefit scheme are policy-level initiatives aimed at encouraging and supporting sustained and phased return to work.

National Context

In 2014, Finland's population was estimated to be over 5 million (OECD, 2018a), with a life expectancy of 80.19 years (Lehtinen & Rantanen, 2012). Seventy percent (71.4%, men; 68.5%, women) of the working age population are vocationally active, with an estimated unemployment rate of 8.6% (2017 figures; OECD, 2018c).

A third of Finnish surveyed employees found their work physically extremely or fairly straining, and 48% found their work emotionally extremely or fairly stressful. Musculoskeletal disorders and mental health problems were the most common causes of short and long-term disability nationally in 2016 (Ministry of Social Affairs and Health, 2016). A labour shortage is anticipated in the near future nationally, in part the result of an ageing population (Lehtinen & Rantanen, 2012). Consequently, the need for younger workers is a national-level priority, as is the promotion and protection of older workers' work capacity (Lehtinen & Rantanen).

The national OH service model in Finland is specified by law and is a mixed-system of delivery, including state and some market-driven provision. Since its development, the OH service system has sought to strike a balance between preventative services and medical care and provision (Finnish Institute of Occupational Health (FIOH), 2014). Healthcare in Finland consists of a highly decentralized publicly funded healthcare system, offering universal healthcare to Finnish residents. A comparatively smaller private healthcare sector also exists. The Finnish social security system reflects the traditional Nordic belief that the state can intervene benevolently on the citizens' behalf, and is touted as having one of the most comprehensive welfares systems in the world. Core to the system are social insurance (e.g. pensions, sickness and unemployment benefits), welfare (e.g. services for the disabled) and – as previously mentioned – a comprehensive health system.

Historical Background

Since its development, the OH service system has sought to strike a balance between preventative services and medical care and provision (FIOH, 2014). The rationale and development of OH services in the Finnish context has had a strong focus on preventative services; but, in practice, medical care has increased and gained more emphasis over time (Husman & Husman 2005; FIOH, 2014). The Finnish system of OH services has developed over time and is characterised by several key stages (FIOH, 2014).

- **Stage 1:** *Sporadic OH Service activity (1850s to 1950s)*
  - OH services during this time were sporadic and reactive activity.
- **Stage 2:** *Unspecific Curative* (1960s)
  - The provision of OH services was voluntary, passive and typically disease-oriented. OH services were typically provided by GPs, with a particular focus on the delivery of curative services.
- **Stage 3:** *Specific Preventive* (1970s to 80s)
  - OH services became part of collective agreements during this time. The remit of such services could be described as medical, specialised and active in nature. During this time a shift in emphasis from curative to preventative services was observed and OH services work became risk-orientated. In 1979, The Act on Occupational Health Services came into force. In 1979, the Act of OH Services came into force and was a key catalyst for this change of focus; and, in turn, the genesis of stage 4.
- **Stage 4:** *Comprehensive Developing (1990s to 2010)*
  - This stage involved the development of comprehensive OH systems. During this time, OH services became multidisciplinary, active, specialised and development-oriented; the promotion of work ability and structural development were typical features of the system and associated policy reforms (Husman & Husman, 2005). This phase was later strengthened when the Act on OH services was revised in 2001. According to the revised Act, the goal of OH services is to co-operate with employers and employees to promote: (i) a healthy and safe work environment; (ii) a well-functioning and health community; (iii) the prevention of work-related illness and accidents; and (iv) the maintenance and promotion of employees' ability to work (Husman &Husman, 2005).
- **Stage 5:** *Consolidation and modernisation (2010 and beyond)*
  - This stage is characterised by consolidation of private OH players, a shift of funding towards the preventive side of OH, fast digitalization of services, and a growing focus on cognitive ergonomics. There is some embedded debate about the future direction of OH in Finland in the context of a major reform of the whole healthcare set-up nationally.

Legal & Policy Context

OH service provision is a legal requirement in Finland. The organisation of OH Services is governed by the *Act on Occupational Health Services*, and supported by the *Government Decrees* on the principles of good occupational healthcare practice,

the content of OH care, and the qualifications of professionals and experts. All three of the key ILO conventions that directly and indirectly relate to OH service provision have been ratified by Finland, including the OH Services Convention (No. 161) in 1987. The following section aims to give a broad overview of the policy context, with reference to key legal documents where applicable. Table 19 aims to provide an overview of key policy and system-level reforms in Finland.

The organisation of OH systems and delivery of services are informed by two key regulations in Finland: The Occupational Safety and Health Act (738/2002) and the Act on Occupational Health Services (1383/2001; Lehtinen & Rantanen, 2012). The Occupational Safety and Health Act (738/2002) applies to all paid employment and stipulates the minimum level of safety and health at work. It describes the duties and responsibilities of both employers and employees, and details the required co-operation between such parties in order to promote OSH.

The Occupational Healthcare Act (1383/2001) applies to all employment under which the employer is bound by the Occupational Safety and Health Act. The OH Care Act focuses on preventing work-related disorders and industrial accidents, and ensuring health and safety at work. The Act aims to promote co-operation between employers, employees (typically through workplace health and safety committees or representatives) and OH service providers. The primary aim of such co-operation efforts is to: prevent work-related illness; raise the level of health and safety at work; maintain the work environment; maintain and improve the health, work ability and functional capacity of employees at different stages of their career; and promote the functioning of the work community.

The Act specifically defines the professional expertise needed by OH service units, and mandates surveillance procedures of the organisation and delivery of such services through a trio of national-level surveys, conducted by the Finnish Institute of Occupational Health tri-annually, and an annual update of compensation statistics by the Social Insurance Institution (Husman & Husman, 2005). The information derived from such surveillance procedures seeks (broadly) to monitor system performance and is directly used for the development of OH systems and services.

Other major laws relevant to this policy context, include (Kosekela & Sauni, 2011): The Finnish Constitution (731/1999); The Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces (44/2006); Government Decree on the principles of good occupational healthcare practice, the content of occupational healthcare and the qualifications of professionals and experts (708/2013); Government Decree on medical examinations in work that presents a special risk of illness (1485/2001); The Occupational Accidents Insurance Act (608/1948; 681/2005); The Act on Occupational Diseases (1343/1998; 1317/2002); The Employment Contracts Act; The Working Hours Act; The Study Leave Act; and The Act on Job Alteration Leave.

Table 19. Summary of key policy developments

Period of Time	Summary of Key Developments
1960s and earlier*: workplace healthcare*	• Workplace healthcare arose in large companies as a result of employers' needs and from lack of public healthcare during the 19th century, and expanded strongly in the 1960s. In 1964, 25% of wage earners were covered. • During this time workplace healthcare kept its role as the provider of primary healthcare for the employed.
1970s and 1980s: *statutory preventive OH services*	• The development of OH services with a concentrated focus on preventive risk and work environment-oriented OH services. This focus arose from the need to prevent health hazards caused by industrialisation. • The Occupational Healthcare Act (1978), aimed at preventive measures focusing on work and working conditions and improving coverage, came into force. This Act made the arrangement of OH services obligatory for employers. The key process of workplace assessment, action plans and medical check-ups were formed at this time. These defining features remain a central component of the Finnish system today. • The possibility to continue to arrange medical care in connection with OH services and to receive compensation for this was outlined the OH Care Act. • Research in the 1980s on the achievements of the OH Care Act indicated that the coverage had improved. However, the Act's objective of increasing preventative services had only partially been achieved. Provisions centered on medical care, and medical examinations were core activities at this time. • The Ministry for Social Affairs and health sought to address this imbalance by preparing a national development strategy (1989), aimed to further extend coverage and increase use of preventative measures.
Pre-1995: *expansion attempt to assume the role as a resource for workplace development*	• OH services aimed to expand their competence, operating procedures and role to become a resource for workplace development. • Despite enthusiasm among key actors, the expansion attempt remained half-completed. This was for several reasons: economic recession during this time, disagreements on what OH service activities should be financed and organized by the workplace itself or by the compensable OH service.

Table 19. Summary of key policy developments *(continued)*

Period of Time	Summary of Key Developments
Post 1995: *new compensation system and Good Occupational Health Practice (GOHP).*	• OH service compensation system was reformed in 1995, with a focus on increasing preventive services arising from the needs of the workplace. During 1994 to 2000, medical appointments increased, with a slight increase in medical examinations and provision of advice and guidance. There was, however, a decrease in the amount of workplace assessments. • After the failed attempts of expansion of the 1990s and early 2000's, the aim was to develop OH services by describing the key processes in the "*Good Occupational Health Practice"* guidance document (insert date). • The Occupational Healthcare Act was amended, in 2001, to place greater emphasis on the role of OH services and their contributions towards preventive services, both in the development of working conditions and promotion of employees' work ability and capacity. • The Act regulated the activities of occupational physiotherapists and occupational psychologists, so that their activities must always be based on a needs assessment from either an OP or OH nurse.
2000s: *medical care intensifies*	• During the 2000s private clinics increased their number of customers from 550,00 to 950,000, with approximately 50% of the Finnish workforce using such services. This was likely a function of the crisis in public healthcare nationally. • Companies were outsourcing their OH services. • In 2013, 75% of physicians working in the OH service were operating in the private sector. During this time the number physicians working in OH services increased more than in any other healthcare sector: primary or specialist care. Towards the end of the 2000's this imbalance was stirring criticism of the unequal distribution of health services among the population and the allocation of physician resources. • Medical care was becoming a key content and the core of OH services, with much of OPs activity being dominated by this provision. • In 2010, practice guidelines for medical care in OH services were published. They emphasised the benefit of medical care for preventive activities and work ability. This has been considered the strength of the Finnish system. However, research does not support the view that information on working conditions in connection with medical care leads to preventive measures and early support for work ability (Soini & Surronen, 2011).

Table 19. Summary of key policy developments *(continued)*

Period of Time	Summary of Key Developments
2010s and beyond: *prevention of work disability*	• During the late 2000s OH services turned their direction to considering the prevention of work disability. This was in part a reaction to global trends in sickness absence management (e.g. the Netherlands) and high levels of sickness absence and disability pension costs in Finland. • During this time, raising the retirement age and extending working careers started to become the key objectives of the social security reform and OH services. • Two key proposal were proposed: ◦ OH compensation system be changed so that activities that promote work ability and prevent work disability would become more effective. In practice, this pursued a wide-ranging implementation approach of sickness absence monitoring conducted in co-operation with workplaces. This was encouraged by applying a compensation percentage of 60% (instead of 50%) to preventative activities in OH services. ◦ OH service be redirected so that to reduce the number of new disability pensions, the promotion of work ability and support for continuing work were introduced as new focal points, alongside the prevention of work-related hazards. • Based on such proposals, in 2013 the following reforms occurred: reforming the government decree on the GOHP, updating the related guide and building an OHS system to ensure quality.

The governance of occupational safety and health systems and regulation of OH services is primarily overseen by the Ministry of Social Affairs and Health, with active involvement by social partners and various research bodies and advisory supports (e.g. Finnish Institute of Occupational Health) nationally. All the key policies related to working life, occupational health and safety, social security and the labour market are negotiated and agreed between three parties (government, employers and trade unions; tripartite collaboration). Such tripartite agreements are signed on a consensual basis (Kosekela & Sauni, 2011).

In Finland, the principle national strategies on the protection and promotion of workers' health are drawn up by the Department for Occupational Safety and Health within the Ministry for Social Affairs and Health, but drafted in active consultation with other ministerial departments and the OSH Inspectorates. One of the central national-level strategies, "*Policies for the Working Environment and Wellbeing at Work until 2020*" (Ministry of Social Affairs and Health, 2011), has defined the objectives, focus areas and principles of national level activities in recent years. The key areas of focus, include: promotion of leadership, provision of OH care, enhanced communication and knowledge-exchange, ensuring good legislation, and competent OSH administration and strong enforcement. This strategy ambitiously seeks to meet five key targets by 2020: decrease the number of occupational diseases by 10%, decrease the frequency of workplace accidents by 25%, reduce perceived physical strain by 20%, reduce perceived psychological strain by 20%, and extend individuals' working life by three years. Consequently, at the national-level there is a strong (and growing) emphasis on improving working conditions and lengthening working life through a higher standard of workers' health and wellbeing at work (Kosekela & Sauni, 2011).

Healthcare & Social Security

The Finnish Ministry of Social Affairs and Health defines the course of social and health policy in both its strategy development and implementation of such policies through legislation, quality recommendations, and programmes and projects. The goal of healthcare in Finland is to ensure the psychological and physical functional health, through preventative-focused, comprehensive healthcare services. The Finnish healthcare services are spilt into primary healthcare and specialised medical and hospital care. Public Health Services include six elements, with OH services being one such aspect (Lehtinen & Rantanen, 2012).

Compensation for work-related accidents is based on the Employment Accidents Insurance Act. Injured employees can claim benefits from the accident insurer (financed through premiums paid by employers; coverage under this scheme is almost comprehensive nationally; Lehtinen & Rantanen, 2012). Compensation for occupational diseases is based on the Act of Occupational Diseases and the Decree on Occupational Diseases. In principle, any disease or adverse health outcome that meets the legal definition of occupational disease can receive compensation (Lehtinen & Rantanen, 2012). For those work-related aliments that fall outside of this legal definition – but continue to result in limited work capacity – compensation can be received through the general disability schemes (Lehtinen & Rantanen, 2012). The Federation of Accident Insurance Institutions co-ordinates the criteria used to

evaluate claims and practices used by insurance companies to make decisions on compensation cases, thus standardising the compensation policies and reducing variation in practices.

Individuals with a disability or chronic illness may be entitled to disability allowance paid by KELA (the Finnish Social Security Agency). This benefit is intended to provide support in everyday life, work and studies for persons (aged 16 years or over) whose functional ability is impaired for at least a year due to disability or illness. This disability allowance is payable at three different rates: basic, middle and highest rate. The rate of allowance is determined based on assessed need and severity. The allowance can be granted for a specific period of time or without any time limit. Individuals participating in rehabilitation measures may be eligible to receive a rehabilitation (no paid employment is possible because of rehabilitation) or partial (working hours must be reduced by at least 40% from normal hours) allowance, to provide economic support during this period of recovery (Kela, 2017).

In relation to sickness absence, the employer is obliged to pay the first ten days of sick leave at 100% of the worker's salary, provided the worker's employment contract has lasted longer than one month. Beyond such provisions, employers are not obliged to continue paying a sick employee's wages. Sick pay and disability benefits are paid by Finland's Society Security Agency. After the ten-day waiting period, employees on sick leave can collect sick pay for a maximum of 300 days. Anyone who has not recovered by then may qualify for a disability pension. Sick or injured employees who return to work part-time after several months on sick leave may qualify for partial sick pay under the partial sickness benefit scheme (The Social and Economic Council of the Netherlands, 2012). This benefit scheme was introduced in 2007 and sought to provide a policy mechanism to provide/ encourage part-time sick leave with part-time work (Kausto et al., 2014).

Partial sickness allowance (50% of full allowance) is paid by the Social Insurance Institution (SII) to the employee. To qualify for part-time sick leave, an employee must be assessed by a physician as incapable of performing regular work duties, but able to perform reduced or modified tasks through part-time work that will not pose a risk to their health or recovery. The choice between part and full-time sick leave is voluntary for the employee. Employees can apply for the partial sickness benefit scheme immediately after the 10-day period of full sickness absence paid by the employer (Viikari-Juntura et al., 2017). After the sickness benefit payment stops, a person can claim disability pension between the ages of 18-62. If there is a chance that their work capacity may improve, the individual may be granted a temporary cash rehabilitation benefit, either on a full or partial basis.

Occupational Health Service Model

The national OH service model in Finland is specified by law and is a mixed-system of delivery, including state and some market-driven provision. Since its development, the OH service system has sought to strike a balance between preventative services and medical care and provision (Finnish Institute of Occupational Health, 2014).

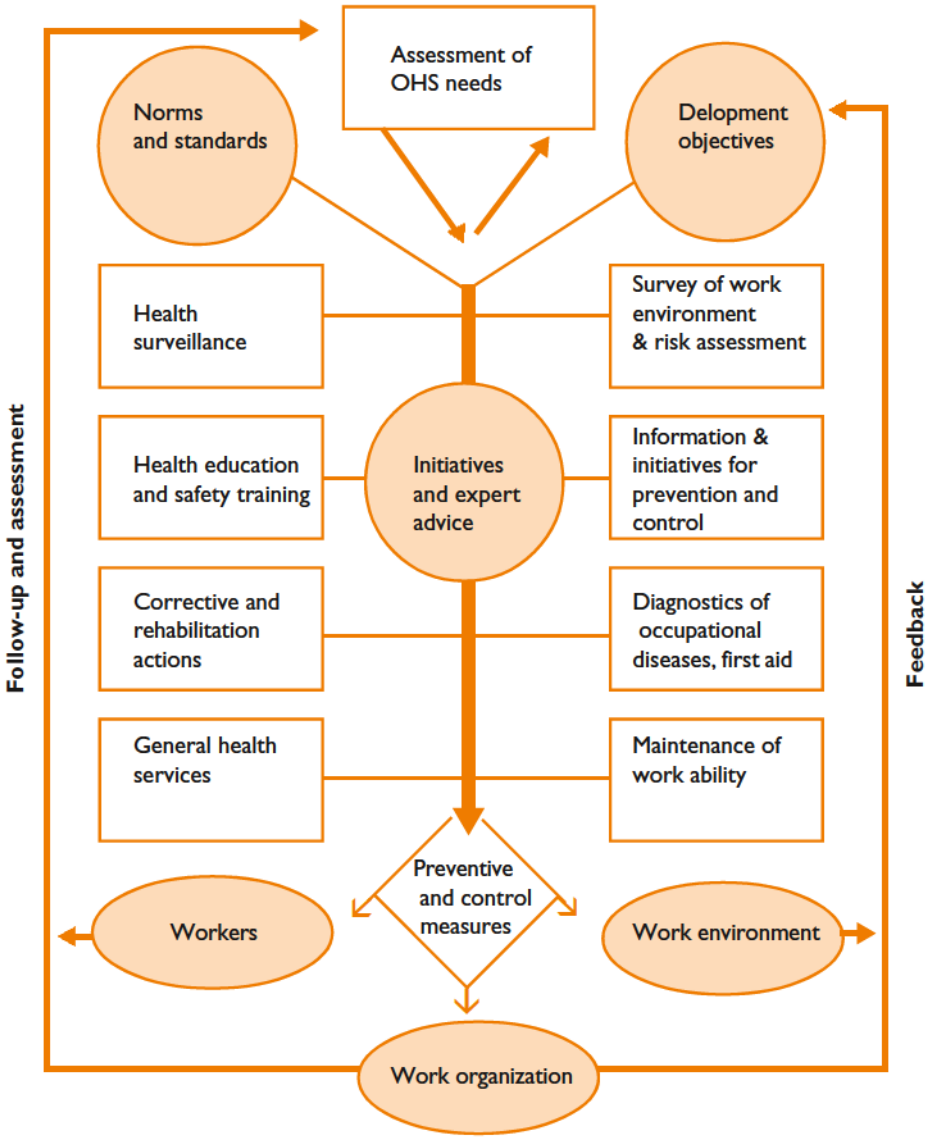
There are four different models of service used in Finland. The employer can acquire OH services from: municipal health centres; private medical centre; an OH service unit integrated into the enterprise; or enterprises can jointly organise their OH services. There has been, since the early 2000's, an increase in the number

of private OH services in Finland (Leino, 2009). The Finnish Guidelines for Good OH Practice Guide (Taskinen, 1997) describes the guidelines for OH practice. The contents of OH services are comprehensive and include preventive, promotive, and curative activities.

Figure 7 provides a flow-chart of OH service functions, according to and defined by the Guidelines for Good OH practice in Finland. It outlines the key practice requirements and guiding principles for the organisation and delivery of such services. Some examples include:

- provision of evidence-based services;
- the utilisation of continuous improvement measures;
- services should assess and regularly monitor the quality and impact of their performance; and
- active dialogue and communication across key actors (Taskinen, 1997).

Figure 7. Flow-chart of OH services functions (Taskinen, 1997)



The working population in Finland is under health surveillance for both public health and OH purposes. The OH service carries out specific health examinations of the working age population, which are divided into several categories according to the Act of Occupational Health Services: pre-employment; special examinations for workers in hazardous jobs; when returning to work after a long sick leave; for the assessment of working ability; and after retirement from particularly hazardous jobs (Lehtinen & Rantanen, 2012). Furthermore, OH services provide rehabilitation counselling, refer employees for further treatment or rehabilitation as needed, and support both employees and the employer in crafting and facilitating the return to work process (Lehtinen & Rantanen, 2012).

In 2009, more than 90% of salaried employees were covered by services, among the highest coverage in the world. In 2016, according to Finland's Social Security Agency's compensation data, 1,833,000 employees (approximately 87% of employees) were covered by their employer's OH service. However, among entrepreneurs in agriculture (63%) and other self-employed persons (37%), the level of coverage is comparatively lower. This is likely due to the fact that OH services are voluntary to such groups. The coverage of micro-sized companies (< 10 persons) was estimated to be 55% (FIOH, no date).

Occupational Health Staffing

The core team of many OH services in Finland includes an OP and OH nurse (Husman & Husman, 2005). In many units, a physiotherapist and psychologist also belong to this team. Other experts are drawn upon when needed, including: ergonomists, occupational hygienists, construction engineers, agriculture advisors, opticians, dieticians, speech therapists, and physical fitness trainers. However, the composition of the multidisciplinary services across OH units tends to vary a great deal, especially by region (Husman & Husman, 2005). There are an estimated 2,400 doctors in Finland working in the field of OH. This includes those working part-time, currently undergoing specialist training, or who work in curative care only. OH services are also supported by an estimated 2,600 nurses, 700 physiotherapists, 300 psychologists, and 800 aides (European Union of Medical Specialist in Occupational Medicine, 2018).

OP (and OH nurses) in Finland are key actors in the provision of medical care for workers (Kimanen et al., 2011). In fact, many individuals may seek medical support and advice from their OH nurse and/or OP for primary care advice, similar to how a British worker may seek medical advice from their GP. In 2005, 69% of visits to an OH nurse and 92% to OP were for primary care advice (Social Insurance Institute, 2007). OPs' key tasks within this system include action to improve health and safety, as well as employment relations, welfare and working life, and medicals/routine check-ups within the context of OH care (SER, 2012). The training of OH service professionals was a point of national debate and discussion for some time (Husman & Husman, 2005). This was partly driven by the decreasing number of OPs nationally due to retirement, and, in turn, the forecasted labour shortage of OPs nationally (European Union of Medical Specialists in Occupational Medicine, 2018). Consequently, the need to encourage more individuals into the area of occupational medicine (especially OPs) was seen as a national priority. The provision of high quality education and training was an important mechanism by which to increase the number of OPs nationally.

As required by law, a licensed physician working primarily in OH services must be a specialist in occupational medicine (Husman & Huuskonen, 2006). In Finland, the government provides training benefits for specialist training in occupational medicine. This benefit is paid to those institutions providing training and education for such professionals, including Universities, the Finnish Institute of Occupational Health (FIOH), and private providers of OH services. By the end of 2015, OH care was the second largest specialism in terms of the number of doctors in training, and the fourth largest in terms of specialists. Specialist and continuous training for medical education is well organised in Finland. However, among additional specialists, the training for OH nurses, physiotherapists, psychologists and other experts has not received the same level of national attention (Husman & Husman, 2005).

The training of OPs in Finland involves several key stages. A physician in Finland must go through all three stages before they are qualified OPs. The three stages are summarised as follows:

- **Basic qualification training**
  - Duration 24 months with a strong theoretical focus supported by practical work. This training involves at least nine months at a municipal health centre, six months at a hospital, and nine months of elective training (e.g. OH services).
- **Specialised qualifications training**
  - Duration 48 months. This period of training involves course-type training. It typically involves: 24 months of work in a OH service, 12 months' clinical service in other fields of specialisation, a six-month segment on assessment of work ability and rehabilitation, and six months' residency at the Finnish Institute of Occupational Health.
- **Completion of Specialist Exam**
  - A 2-year residency in the Finnish Institute of Occupational Health is required during this period of training. This period sees individuals further their specialised studies in occupational medicine. This period of training includes both further theoretical training, but also a resident service in OH services. Following this period, to be a registered OP they must successfully pass the national specialist exam.

Occupational Physicians are represented by the Finnish Association of Occupational Health Physicians.

OH nurses (like OP) provide primary healthcare alongside specific OH services (Social Insurance Institute, 2007). Some of their key tasks include: action to improve health and safety, as well as employment relations, welfare and working life; and medicals/routine check-ups within the context of OH care (The Social and Economic Council of the Netherlands, 2012). The role of OH nurses includes the coordination of services, and they also work as a core group with occupational health physicians in the Finnish OHS system. This group of individuals undergo the basic training of a public health nurse, and complete complementary studies needed to work in OHS (offered through polytechnics and the Finnish Institute of Occupational Health). Their training covers: the OH service system; legislation; risk assessment; occupational medicine; psychosocial factors at work; ergonomics; health promotion; national work health and safety strategies; and planning of OH services (Lehtinen & Rantanen, 2012).

Employers' Role

The employer is bound, by Finnish law, to ensure health and safety at work by considering and covering all aspects of work, working conditions and the work environment, as well as the personal prerequisites of the employee (including professional skills, age, gender and other relevant aspects; Lehtinen & Rantanen, 2012). The Occupational Healthcare Act requires employers to organise and pay for the preventive services for all employees, regardless of the size, form, or industrial sector of the organisation (covering both public and private sectors; Lehtinen & Rantanen, 2012; Leino, 2009). Employers may organise OH services themselves or through municipal healthcare centres or private service providers (Lehtinen & Rantanen, 2012). The organisation of curative services (e.g. medical treatment of diseases and general preventive health services) is voluntary (Lehtinen & Rantanen, 2012). The employer is entitled to reimbursement of the incurred costs from the Finland Social Security Agency, covering 60% of necessary reasonable expenses of preventive services, and 50% for curative services. The financing for reimbursement is collected mainly from employers as a deduction from the payroll for the Sickness Insurance Fund (Leino, 2009). Reimbursement is conditional on compliance with the national legal framework.

As discussed earlier, Finnish employers are also obliged to pay sick pay for employees off work during illness. In 2012, the introduction of the *'30-60-90-day rule'* sought to define the role and responsibilities of employers (and employees) during long-term spells of sickness absence. The 30-60-90-day rule emphasises early notification of prolonged sickness absence to both the OH service and the SII, and encourages the active collaboration of the employee, the OH service and the employer in the assessment of current or future workforce participation (Halonen et al., 2015). This policy initiative is characterised by several key stages:

- Employers must inform the OH service provider when an employee has been ill for 30 or more calendar-days (30-day rule). The medical certificate for short-term sickness absence was modified, with an addition of a specific section to include suggestions for work modifications or rehabilitation that could enhance return to work.
- The employer should send a bill on daily allowance to the SII within 2 months (60-day rule).
- Any physician can assess work disability and issue-related certificates. However, SII will require an assessment by an OP if work disability persists for more than 90 compensated days (corresponding to 116 calendar-days, 90-day rule). This assessment will include: assessment of work disability; remaining work ability and identification of potential work modifications; and rehabilitation possibilities to prevent unnecessary prolongation of absence from work. The OH service has a coordinating role in supporting discussion between employer and employee in required work modifications and return to work practices.

Finnish employers are obliged to make reasonable accommodations related to: work conditions, work organisation, working hours, work methods, facilities, training and arrangements of work and work guidance. There are no employer obligations, however, for vocational rehabilitation, but disabilities benefit premiums are experience-rated and employers have a number of OSH obligations (OECD, 2010).

Finnish employers (as previous outlined) pay employees a continued wage payment for the first nine days of sickness. By collective agreement, however, most Finnish employers pay full salary during the first one to two months (OECD, 2010).

Smaller Sized Companies

Finland has a total of 286,934 enterprises (2017 figures, excluding agriculture), of which 98.8% are smaller companies (employing fewer than 50 people). An estimated 93.2 % of Finnish companies are micro-sized, defined as having fewer than 10 employees (Statistics Finland, 2017). Coverage of OH services in smaller sized companies remains a clear issue in Finland as coverage for such enterprises has not improved significantly (FIOH, 2014). From a preventative perspective, a key priority for the Finnish Institute of Occupational Heath (national research and training institute) is to support smaller sized companies in their provision of safe and healthy working conditions, through their 'Risk Management for SMEs project'. Its focus is, however, very centred on safety-related issues. The aim of this project is to improve overall knowledge in different areas of risk management among personnel in Finnish SMEs through the use of a purposively developed toolkit and complementary web-based training (EU-OSHA, 2003).

System Impact & Evaluation

The Ministry of Social Affairs and Health in Finland (2016) has recently compiled statistics examining the trajectory across a number of system performance outcomes. Such information does not allow us to determine a causal relationship between characteristics of the national OH system and key performance outcomes, but does suggest, however, the existence of an association (Nesta level 2). In general, the compiled national statistics by the Ministry of Social Affairs and Health in Finland (2016) have observed:

- An increasing number of recipients of rehabilitation services from the Finland Society Security Agency (2004 to 2015).
- A general downwards trend in both diagnosed and suspected cases of occupational diseases among wage earners (2003-2015).
- A decrease in the number of cases across various occupational disease categories (2005-2013).
- A general downward trend in occupational accidents and occupational diseases among wage earners (2005 to 2014).
- A general downward trend in the reported number of sickness allowance days compensated for due to illness (2000-2014).
- A decrease over time in the number of all employees retiring on a disability pension due to mental health and behavioural problems and musculoskeletal and connective tissue disorders (2005-2013).

Table 20. Summary of key studies examining effectiveness of "30-60-90" policy reforms

Authors	Methods	Aim	Findings	Conclusion
Halonen et al. (2016)	Natural experiment	Compared employees with continuous sickness absences of (i) 30 calendar days; (ii) 60 compensatable days; and (iii) 90 compensatable days in relation to sustainable return to work (defined as more than 28 consecutive workings days).	Sustainable return to work after 60 days of sickness absence occurred earlier after implementation of 30-60-90 rule, although the effect reduced towards the end of the follow-up (approaching 90day) period. However, there were no differences in return to work after 30 or 90 days of sickness absence.	Findings suggest that the legislative changes, obligating early notification of prolonged sickness absences (as well as assessment of remaining work ability and possibilities to continue working), may enhance sustainable return to work in the short term.
Kausto et al. (2014)	Register-based quasi-experimental study	Compared a group of individuals on partial sick leave (1,738) to those on full sick leave (56,754) in relation to their pre and post differences on work participation. Both groups were followed for 365 days.	Although work participation declined in both groups, the decline was 5% smaller in the partial sick leave group. This beneficial effect was observed in particular among those aged 45-54 (5%), 55-65 (6%), and in mental disorders (13%). When groups were case-matched, the effects on work participation were doubled, and seen across all age groups and in other diagnostic categories.	Findings suggest that the new legislation has potential to increase workforce participation of the population with long-term sickness absence in Finland. The authors speculate that partial sick leave may be a useful tool in reducing withdrawal of workers from the labour market due to health reasons.

Table 20. Summary of key studies examining effectiveness of partial sick leave policy level reforms *(continued)*

Authors	Methods	Aim	Findings	Conclusion
Kausto et al. (2012)	Register-based cohort study	Compared individuals on partial sick leave and full sick leave for musculoskeletal disorders (MSDs) and mental disorders on their risk of full or partial disability pension.	This study observed that partial sickness benefit reduced the risk of full disability pension by 6%, and increased the risk of partial disability pension by 8% compared with full sick leave. The effects did not differ markedly for the two main diagnostic groups of musculoskeletal and mental disorders.	The authors conclude that combining work with partial sick leave may provide a useful way of increasing work retention nationally.
Viikari-Juntura et al. (2017)	Nation-wide register-based quasi-experimental study	Aimed to assess the effectiveness of the use of part-time sick leave at the early (first 12 weeks) stage of work disability (due to mental disorder or MSD) on sustained return to work (i.e. ≥28 consecutive days at work) and overall work participation.	A higher proportion of the part-time sickness absence benefit group showed sustained return to work, compared to those with full-time sickness absence benefits. Moreover, the proportion of time at work was 10.5% points higher in the part- compared to full-time sick leave group. The prevalence of full disability retirement was almost 3 times higher among the full- compared to part-time sick leave group, whereas the partial disability retirement was 4.5 times more prevalent in the part- compared to full-time sick leave group.	The authors conclude that prescription of part-time sick leave can be recommended at an early stage of work disability, and can be a useful strategy to enhance return to work and overall work participation.

From 2008 to 2017 there has been an increased trend in the number of recipients and the amount of disability benefit paid out in Finland (399,235,179 in 2008 to 554,859,345 in 2017; a 39% increase), with a similar trend in the number of recipients' rehabilitation services (87,845 in 2007 to 108,970 in 2017; 23.7% increase; Kela, 2017). This upwards trend is best understood within the national context of Finland, which has an ageing working population (Finnish Institute of Occupational Health, 2014). Data from 27 EU member states (EU-LFS) indicated that the percentage of working age individuals (15-64%) reporting a work-related health problem resulting in sick leave in Finland was the lowest among all surveyed countries (approximately 20% = Finland, EU-28 average = 40%; Spasova, Bouget & Vanhercke, 2016). As discussed earlier, Finland has implemented a number of policy-level initiatives designed to support increased return to work and sustainable workforce participation following a period of sick leave: the '30-60-90' rule and partial sick pay benefits. To varying degrees such initiatives have been evaluated. Tables 19 and 20 aims to provide a summary of some key studies. While such studies demonstrate an association in the anticipated directions, we cannot assume or establish a direct causal relationship (Nesta 2 standard; Puttick & Ludlow, 2013).

Mechanisms of System

A recent review of the OH services in Finland identified several key mechanisms that have influenced the development and the success of the OH system (FIOH, 2014).

- Tripartite co-operation. Strong tripartite cooperation between government authorities, employers and employee representatives. The Social Insurance Institute, Finnish Institute of Occupational Health,[37] and organisations representing OH professionals are key participants in such discussion.
- Legislative efforts. Control of OH services through legislation has been very active in Finland. All legislative reforms are strongly characterised by their increasing focus on preventative activities, focusing on working conditions and employee health, while also preserving medical care.
- National development strategies. Medium-term development strategies have been prepared in tripartite co-operation. Such documents provide a strong focus and goal-orientated approach to the OSH system and the role of OH services therein.
- The role and function of the Finnish Institute of Occupation Health is an important and central component of the national system. The Finnish Institute of Occupation Health is the most significant body that provides OH service professionals and experts with training leading to a qualification. There is clear strategy for the training of OH professionals nationally, and FIOH is a key player in this process. FIOH is also central in the development of operating models, new practices and electronic tools to be used in OH units. On a smaller scale, the Finnish Institute of Occupation Health also supports regional and nationwide development activities in co-operation with OH service units.

[37] The Finnish Institute of Occupational Health is a multidisciplinary research and specialist organisation that focuses on well-being at work, research, advisory services and training. It operates under the Finnish Ministry of Social Affairs and Health as an independent legal entity.

- Funding criteria by Social Insurance Institute. The funding criteria by the SII are considered the most effective of the means of official control. As compensation level is as high as 50-60% of OH service costs, it significantly guides their activities and utilisation. The SII bounds its compensation practices to the OH Care Act and the principles of good occupational health practice guidelines.

Lessons Learned

- It would be beneficial to support enhanced health and safety provisions of employees in micro-sized enterprises and to support enhanced work capacity and sustainable working life among Finnish workers through the national-level system of OH services.
- Encouraging employers to go beyond legal requirements in the area of OH and to implement workplace actions and strategies that seek to promote the health, wellbeing and sustainable work capacity of employees has potential value.

The Netherlands

Key Features

- Dutch workers are served by an OH provision system that provides near comprehensive coverage at the national-level.
- A number of policy reforms in recent years with a concentrated focus on prevention, multidisciplinary OH management, and disability management (Baart & Raaijmakers, 2010).
- Interesting national example of the use of soft law (e.g. an agreement with employers, trade unions and the government). The soft law (constructions) covenants (Arbocovenants, 1999-2007) support the use of a more tailor-made approach in which companies, together with social partners, take greater responsibility for safety and health. The objective is still the prevention of illness, with rates of absenteeism and disability as the main indicators of success.
- The development of professional guidelines has been a useful approach to support, enhance and standardise OH care and quality.
- The use of employer-led tools to support prevention and compliance.
- Strong efforts to support and enhance provision of care through enhanced and standardised professional codes of practices (e.g. Netherlands Society of Occupational Medicine (NVAB)).

National Context

In 2015, the working-age population in the Netherlands was 8.3 million (Netherlands Organisation for Applied Scientific Research (TNO),[38] 2017), served by a near-comprehensive occupational health system of delivery. There is a growing number of self-employed workers in the Netherlands (making up about 16% of total employment; OECD, 2018e). For these individuals there is limited basic protection on work and health enshrined by law, with, in turn, minimal provisions within the social security system (Baart & Raaijmakers, 2010). However, these individuals can garner support through the Social Assistance Law.

An estimated 18% of working age Dutch adults reported having a long-term or chronic condition restricting their work capacity in 2016, with the most commonly reported causes being psychological, arm/hand, and back/neck complaints (TNO, 2016). The Netherlands Centre for Occupational Diseases (NCOD) report that there has been no significant decrease in the burden of occupational disease among the working age population within the Netherlands in the last 20 years (NCOD, 2010). However, in contrast, a decrease of sickness absence and disability pensions has been observed (NCOD, 2010). The 1980's saw a high of approximately 10% working days lost due to sickness absence annually (OECD, 2007). However, since 2007, a dramatic decline in the level of sickness absence has been observed: stabilising at around 4% (TNO, 2016). In comparison in the UK, the sickness absence rate was relatively flat between 2010 and 2018, and stood at 2.0% in 2018 (Office for National Statistics, 2019).

[38] www.tno.nl/en/

Around half of all days lost to sickness (work-related or not) were due to musculoskeletal symptoms and psychological symptoms, stress, or burnout complaints in the Netherlands (TNO, 2016).

Historical Background

The provision of OH service is specified by law and is market-driven in the Netherlands, providing coverage to a high proportion of the Dutch working population. OH services are delivered by a multi-disciplinary team of OH professionals. The Netherlands has universal healthcare, but the government requires all working-age adults to have basic insurance. The basic plan covers the basic standard of care, e.g. visits to the GP and hospital. The Netherlands has a comprehensive social security system, which includes two kinds of compulsory social insurance schemes: national insurance systems (covers all persons legally living in the Netherlands) and employee insurance schemes (covers anyone employed).

The policy reforms in the area of work and health have undergone significant changes in preceding decades, with many describing the system as in “permanent change” (Weel & Plomp, 2007). In the early 1990s, the Netherlands faced an extremely large number of benefit receipts for both short- and long-term disability (Bockting, 2007). In 1989, nearly a sixth (nearly 1 million people) of the Dutch working population were labelled “unable to work” (Baart & Raaijmakers, 2010). Nationally and internationally this national-level crisis was called the “Dutch disease”. This national-level situation drove many of the observed policy reforms in the 1990s and beyond (Bockting, 2007). Prior to 1989, the focus on work and health in the Netherlands was risk-orientated, with a concentrated focus on preventing death, injury and ill health due to unsafe working conditions. However, recent decades have seen an increased focus on prevention, multidisciplinary OH management, and disability management (Baart & Raaijmakers, 2010). The aim of this section is to give a cursory historical overview.

In 1959, the Act of Occupational Health Service laid the foundation for OH services in the Netherlands. The Act provided an overview of the many required tasks of an OH service, but enacted no obligation on employers to procure such services. Only companies with more than 750 employees and, specifically, lead-processing companies were legally required to provide such services. The delivery of such services during this time was almost exclusively by OPs and OH nurses. The Working Condition Act of 1980 replaced the Safety Act of 1934. The enactment of the Working Conditions Act (1980, 1994) saw fundamental changes to the requirements surrounding OH services and multidisciplinary professional support therein (Baart & Raaijmakers, 2010). This Act began the process of movement away from an exclusively risk-orientated perspective (i.e. to prevent harm and injury), to the pursuit of optimum working conditions aimed at protecting and promoting workers’ health and wellbeing (Baart & Raaijmakers, 2010).

The Working Conditions Act was fundamentally revised in 1994. The principle of direct regulation was abandoned at this time and a principle of self-regulation by stakeholders was introduced, where the primary focus would be on ‘target or performance’ regulations, stimulated by financial incentives (Weel & Plomp, 2007). The revisions to the Working Conditions Act required employers to provide a policy on work and absenteeism, and identify and manage (and prevent where possible)

occupational risks in the areas of safety, health and wellbeing (Baart & Raaijmakers, 2010). Further details on mandated actions by employer are detailed in the next section (i.e. work councils, and obliged OSH tasks).

Revisions to the Working Conditions Act also introduced the obligatory affiliation of all employers to a certified Occupational Safety and Health service (arobodienst), be they internal (i.e. OH staff employed directly by the organisation) or external (i.e. where services are contracted out) to the company. Employers were given the option to use either external or internal OH services and to make arrangements with OPs. This is only possible if the employer has reached an agreement with the Work Council,[39] or by agreement by way of a Collective Labour Agreement (Baart & Raaijmakers, 2010). The Act also mandated that four areas of OSH specialists should form the basis of this service (OPs, Safety Officers, Occupational Hygienists and Work & Organisational Professionals), with the OP playing a central role in delivery. During this time, the previous ban on profit-making OH services was lifted. The aim of which was to promote a competitive market in this domain. The introduction of the OSH service was driven by two key national-level developments: the obligation to implement Directive 89/391/European Economic Community; and the obligation to pay the employee with sick leave instead of a benefit based upon the Sickness Absence Act. Consequently, the Occupational Safety and Health service has two main goals: to help employers with occupational safety and health issues, and to help employers in getting their sick employees back to work.

The Dutch policy context saw the introduction of a number of soft law programmes in recent decades, namely: OSH covenants (2000-2007) and later the OSH catalogues (2007 and onwards). The OSH Covenants (Arboconvenanten Tripartiete Werkgroep, 2007; Blatter et al., 2008) refers to a series of collective agreements between trade unions, employers and government, which primarily focus on the reduction and management of main risks within a given sector/industry and their impact on workers' health, wellbeing and safety. The underlying goal was to reduce the transfer of workers to social security arrangements, especially those for worker disability. Under this programme, a total of 69 Covenants were agreed (reaching 53% of the Dutch workforce in employment). A follow up of this policy programme saw the development of the OSH Catalogues (Heijnk & Oomens, 2011). The primary aim of this policy programme was to have catalogues of good practices for each given sector/ industry to support employers in their management activities of workers' health. The OSH Catalogues are intended to complement and support regulation but aim not to be prescriptive or constraining for companies. From an employer's perspective, using an OSH catalogue gives the company a guarantee that the legal obligations and objectives are met (Leka et al., 2012).

During the 1990s significant reforms to the Sickness Benefits programme in the Netherlands were seen. Initially, in 1994 with the Sickness Absence (reduction) Act and later with the Extension of Obligation to Pay Salary (Sickness) Act. The primary aim of such policy reform was to privatise a part of the social security system, by creating a financial risk for employers (see the social security section for more details). The 2000s saw the introduction of further policy initiatives aimed at

[39] In the Netherlands a works council (*ondernemingsraad),* promotes and protects the interests of the employees in a company. The works council has rights, such as: the right to prior consultation in the event of major decisions and measures; the right of consent in the event of certain changes regarding terms of employment; the right of consent concerning the appointment of prevention officers. The works council meets with the employer at least twice a year.

addressing and supporting disability management: PEMBA (which stands for in Dutch "Premium differentiation and market-orientation of the work-disability insurances"); Workers with Disabilities Reintegration Act (termed REA; 1998); and later the Gatekeeper Act (2002).

On the 1st of January 1998, the PEMBA Act came into force, resulting in disability premiums paid by employers being contingent on the number of employees claiming a disability benefit. The REA law, in contrast, concerned the reintegration of people with a disability to work, and sought to encourage employers to hire and retain individuals with a disability. REA no longer exits, however. Later in 2002, the Gatekeeper Act was enacted, which contained further rules for both employers and employees in relation to active planning and management of return to work by employees. Such rules are obligatory, and must be supported by documentary evidence of the re-integration process. Both employers and employees in breach of such rules may face sanctions (Baart & Raaijmakers, 2010).

In 2004, reforms to disability benefits saw the 52 weeks of continued wage payments prolonged to 104 weeks. Combined with the improved Gatekeeper's Act, the employer who does not fulfil their obligations to support the reintegration of the employee on sick leave may face financial sanction, namely having to pay sick pay for a further 52 weeks. In 2006, the Work and Income (Capacity for Work) Act (WIA) came into force (replacing the Invalidity Insurance Act; WAO). This Act consists of two parts: the permanent disability (IVA) and partial disability (WGA) (see social security section for more details). In 2007, it was decided that under the Work and Income (Capacity for Work) Act scheme those beneficiaries younger than 45 (on 1 October 2004) were to be reassessed (approximately 350,000 cases) on the basis of more stringent criteria (see Bockting, 2007 for further details).

Legal & Policy Context

The provision of OH services is legally mandated in the Netherlands. Provision of OH services is enshrined in the Working Conditions Act (1980; 1994), which outlines requirements surrounding OH services and multi-disciplinary professional support. In 1991, the Netherlands ratified ILO Convention No 155 (Occupational Safety and Health Convention), but has not ratified the OH Service Convention (No. 161) or Promotional Framework for Occupational Safety and Health (No 187). The following section aims to build on the previous section and highlight the broader policy context nationally.

The Netherlands is well-known for its experience with the use of soft law to promote safe and healthy working conditions (Leka et al., 2012), with many contemporary policy initiatives having a concentrated focus on standardisation, supported by employer-led initiatives (e.g. OSH covenants and later the OSH catalogues; Leka et al., 2012). A key driver for many policy reforms in this national context has been to allow increased flexibility among companies to customise the manner in which they promote good working conditions. Such reforms have been underpinned by deregulation measures and financial incentives, on the one hand, and increased use of standards and (industry set) targets to ensure OH quality, on the other (Netherlands Focal Point, 2018). All key statutes in relation to both OH (and wider occupational health and safety) regulation derive from the Working Conditions Act (1994), the Working Conditions Decree (1997) and the Working Conditions Regulations (1997).

In general, the Working Conditions Act (derived from the European Council Directive 89/391/EEC) forms the basis of health and safety at work in the Netherlands and outlines the general provisions for employers and employees. Collectively, the Working Conditions Act, with the Working Conditions Decree and Labour Regulation, provide minimum requirements for the OSH protection of employees. Employers and employees must jointly agree on how the targets in the area of safety and health at work are to be achieved. This is applicable for companies of 50 or more employees. These companies are obliged to create a work council. Companies with less than 50 employees don't have the legal obligation to create any form of worker participation. The aim of this collaborative approach between employers and employees is to allow for a tailored approach to OSH, while taking into account the specific risk and needs of the company (Baart & Raaijmakers, 2010). Such collective agreements are achieved through a consensus-based model of decision making, typically using a tripartite party method, involving trade unions, employers, and government (Vink, Imada & Zink, 2008). The Working Conditions Act outlines a number of mandated tasks for employers, including work councils or "prevention workers" and several obliged OSH tasks (see Employer section for more details).

General rules on specific OSH issues are elaborated in the Working Conditions Decree. The Decree contains concrete provisions (e.g. specific sectors and specific groups of employees, management and organisation of work, work equipment, etc.) that employers must follow, and defines specific target requirements and limit values. The limit values and target requirements in the Working Conditions Decree concern standards and values for risks that occur in more than one industry. The vast majority of such target requirements relate to more 'traditional' work-related hazards, namely physical, biological or chemical. Such outlined agreements are also represented in the OSH Catalogues (Netherlands Focal Point, 2018).

The Procedural Regulations in the Working Conditions Decree address target provisions that have not been set, or where it is impossible to set limit values, for example work-related psychosocial hazards or work-related stress (Netherlands Focal Point, 2018). In relation to work-related stress, the Dutch legal framework (for example) requires both employers and employees to actively manage and prevent work-related stress. While it is not possible to provide a specific limit value, the OSH Catalogues outline a number of methods that can be used at the enterprise-level to manage and prevent work-related stress (Netherlands Focal Point, 2018). The enforcement of the Working Conditions Act is the responsibility of the National Labour Inspectorate (Inspectorate SZW). The Inspectorate uses the OSH catalogues and its own working conditions brochures during the inspection (Kwantes & Hooftman, 2017).

The "Dutch Vision and Strategy for Occupational Safety and Health" (Ministry for Social Affairs & Employment, 2016) details the national-level vision, goals and strategic actions that contribute to safe and healthy work environments (see Table 21 for summary). It outlines how such national-level vision and goals can be achieved through supporting employer-led actions. Provision for such initiatives is supported by the Self-Regulation Programme, responsible for commissioning employer-led projects and initiatives (e.g. OSH catalogues; Ministry of Social Affairs & Employment, 2016). The strategic aim of this suite of programmes is to support the continuing vision of the Dutch government to strive for less legal provisions and to reduce the costs of administrative tasks.

Table 21. Summary of Dutch vision and strategy for occupational safety and health (Ministry of Social Affairs & Employment, 2016)

Vision	Employers are responsible for working conditions, with optimum working conditions across enterprises the ultimate goal.
Targets	The most important policy goal is to reinforce knowledge and improve a culture in the workplace to prevent work-related illness.
Strategy	Strategic actions are deployed to achieve the aforementioned vision and goal, with both employers and employees key participants in this process. The actions are focused on setting the agenda and stimulating, supporting, standardising, maintaining and monitoring good working conditions and work environments. Key areas of focus are: sustainable employability (psychosocial risks and unique needs of SMEs), self-regulation, responsible commissioning, improvement of corporate culture, and health and safety educational programmes.

Healthcare & Social Security

All residents in the Netherlands are required to enrol themselves with a health insurance provider. All individuals who live in the Netherlands must pay into some parts of the Dutch social security system, regardless of employment. The provision of benefits is determined based on the individual's income and assets. For salaried employees, social security payments for employee insurance (required for all employed persons) are automatically deducted from their income. However, many workers (e.g. the self-employed) are not insured against sickness, unemployment or disability. However, this group of workers can enrol with one of several insurance companies to receive employee benefits, to which they must pay individual social security contributions. Table 22 aims to summarise the key benefit schemes that relate to both long and short-term disability under the Dutch social security scheme.

Table 22. Summary of social insurance programmes in relation to disability benefits

Disability coverage	The **Invalidity Insurance Act (WAO)** was replaced with the **Work and Income (Capacity for Work) Act** in 2006. Both WIA and WAO make no distinction between social and occupational risk. The WAO is still enforced for those who qualified prior to 2004, while any claimants after this time are entitled to WIA. WIA consists of two statutory provisions: income protection for individuals registered as wholly and permanently incapacitated (IVA); and the re-employment of partially incapacitated individuals (WGA). Individuals can apply for WIA after two years on sick leave benefit. The government assumes responsibility for ensuring adequate income protection for those ineligible under this benefit scheme. **Self-employed Disablement Benefits Act** was abolished in 2004. Self-employed persons may now take out private insurance against the risk of occupational disability.

Qualifying conditions	**Permanent disability pension (IVA):** Employees younger than age 65, assessed with a permanent incapacity for work, an earning capacity of less than 20% of former earnings, and limited prospect of recovery. **Partial disability pension (WGA):** Employees younger than age 65, assessed with partial disability (35% to 79%), who are capable of some work. Responsibility for maximising the employment capacity of employees who are less than 35% occupationally disabled lies with the employer.
Benefit provision	**Permanent disability pension (IVA):** 75% of the insured individual's daily wage is paid. The benefit is normally paid after two years of sick leave. Persons may qualify before two years if assessed with a full and permanent disability. At the pensionable age, IVA is replaced with an old-age pension. **Partial disability pension (WGA):** After two years of absence, the partially incapacitated individual can claim a wage-related benefit under the WGA. Up to 70% of the insured individual's daily wage is paid, depending on the degree of disability. The benefit is paid for at least three months up to 38 months, depending on the number of years of previous employment. Once the WGA benefit comes to an end, the individual may be entitled to a WGA follow-on benefit or a wage supplement benefit.

Prior to 1994, employers were reimbursed for the sickness absence of their employees out of collective funds (derived from employer contributions). At this time, however, such contributions were largely independent of current sickness absence figures in specific companies or sectors, which was thought to disincentivise employers' use of proactive management strategies for disability and illness (Baart & Raaijmakers, 2010). In 1994, the Sickness Absence (reduction) Act was introduced, with the primary aim of reducing the economic impact of sickness absence (Baart & Raaijmakers, 2010). This Act privatised a part of the social security system by creating a financial risk for employers. The first two weeks (for small companies) and six weeks (for large companies) of any spell of absence was no longer reimbursed, and employers had to pay the costs themselves (Baart & Raaijmakers, 2010). This created a significant financial incentive for employers to invest in the prevention of sickness and disability.

Soon thereafter, the Extension of Obligation to Pay Salary (Sickness) Act was introduced (1996), which required employers to pay at least 70% of the wages for 104 weeks. At the same time, the disability pension benefits were made contingent based on the length of a person's employment. Under this Act, it is not, however, solely the responsibility of employers to pay such benefits. For certain categories of employees, this Extension of Obligation to Pay Salary (Sickness) Act is still valid and aims to be a 'safety net'. These categories, include: employees who lose their job during the period of continued paid employment; temporary workers working for employment agencies; employees whose employer goes bankrupt; unemployed persons, and sickness during the first five years of employees hired while on

disability benefit. For these categories of the "safety net", the Dutch Employee Insurance Agency (as opposed to the employer) is responsible for case handling and reintegration (Bockting, 2007).

Individuals who partially or completely lose their jobs are entitled to unemployment benefits. Their employment history will determine the amount and duration of this benefit. Those that satisfy the minimum 'week requirement' (26 of the last 36 weeks) will receive three months of benefits. For those meeting the 'year requirement' (four out of five years), the duration of benefits may be extended for a maximum duration of 3 years. Under the Dutch social insurance system many individuals would have access to workers' medical benefits. This benefit is supported by private insurance, and the provisions it includes will depend on the contract between the healthcare insurer and the insured individual (Social Security & International Social Security Association, 2012).

Occupational Health Service Model

The provision of OH service is specified by law and is market-driven in the Netherlands, with an estimated 80% of Dutch workers having access to such services (European Union Trade Institute, 2014).

The Working Conditions Act (date) passed legislation requiring employers to obtain professional support when formulating and implementing their health and safety policy. By law there are four key professionals that are central to the delivery of OH services: OPs, safety officers, occupational hygienists and work and organisational professionals (for more information on the remit of their roles see "OH staffing" section below). The remit of this professional support spans three key areas:

- provide advice on sickness absence management and prognosis of recovery;
- check and approve the company's occupational health and safety risk assessment (termed Risk Inventory and Evaluation); and
- conduct health surveillance of employees in cases of work-related risks (Netherlands Focal Point, 2018).

The Act was amended in 2005, and the requirement to provide employees with a free hour's consultation was withdrawn. This was despite considerable protest from the OP (and wider OSH) community (Hulsfof & Frings-Dresen, 2010). However, since the 1st of July 2017 this provision (access to a consulting hour with OP by workers) has been reintroduced in the Working Conditions Act.

Prior to 2005, Dutch employers were required by law to hire a certified external OSH service if the company did not have an in-house OH service. Following 2005, mandated OSH support can be delivered by an externally contracted OH service or by hiring in specific expertise (customised support). However, this is only after the employer has reached an agreement with the Work Council or if permission is made possible by a Collective Labour Agreement. This support can also be arranged 'in-house' (i.e. internal OSH; Baart & Raaijmakers, 2010). The OH service should review the risk inventory and evaluation and plan of action for the given workplace, and where appropriate provide recommendations. Employers can achieve this by either having an:

- In-house or external arrangement with an OH service (a so-called tailor-made arrangement). In this arrangement an employer has to contract one or more OPs to support them in their prevention and monitoring of absenteeism; or
- Using an internal or externally certified OH service (a so-called safety-net arrangement).

The government wishes to encourage Dutch employers to utilise tailor-made, rather than safety-net arrangements. However, tailor-made arrangements are only possible if the employer has a written agreement with the Work Council or this arrangement has been made possible in the Collective Labour Agreement. This agreement is agreed collectively between the employer and either a trade union, Works Council or worker representative (Schaapman, 2015). Should a company choose a tailor-made arrangement, at least one OP needs to be available to conduct OH examinations and pre-employment medical checks during working hours (Kwantes & Hooftman, n.d.). In 2008, more than 85% of all companies had a contract with either an OH service or with an individual expert (Bakhuys Roozeboom et al., 2009). According to the National Labour Inspectorate in 2009, only 3% of the companies formally had a tailor made arrangement (Saleh et al., 2009), with the vast majority using external services (safety net arrangements), usually by contracting one of the large, multidisciplinary OH service providers.

Compliance with the obligations of the Dutch Working Conditions Act is generally quite good, especially for the medium-sized and larger companies (Bakhuys Roozeboom et al., 2009). Saleh et al. (2009) for instance reported that 100% of all companies with 100 or more employees have contracts with preventive healthcare organisations[40] and/or professionals, and 96% of all companies with 100 or more employees have an internal policy document for preventive action. However, micro companies (<10 employees) have a much smaller compliance-rate in comparison; for example, 75% of micro-sized companies have contracts with a preventive healthcare organisation and/or professional; and 75% of all small companies (10-99 employees) and 39% of micro-sized companies have an internal policy document on preventive action (Saleh et al, 2009). Consequently, the provision of support for small and micro-sized companies is a key national-level priority (Kwantes, Houtman & Hesselink, 2010).

Occupational Health Services Staffing

As aforementioned, by law there are four key professionals that are central to the delivery of OH services, with OPs playing a central role. The expertise is supported by the use of guidelines, with the professional associations as the major players in improving the quality of expertise and consequently service delivery (Baart & Raaijamkers, 2010).

The OP is a title that is legally limited to registered medical experts specifically trained in the areas of work and health. OPs have several key roles in OH delivery, namely: (i) the management of absence behaviour, (ii) the execution of health surveillance programmes (based on risk assessment and evaluation), and (iii) prevention of injury and work-related illness activities. However, in practice, the majority of their time is spent on absence management, rather than prevention activities (Hulshof & Frings-Dresen, 2010; Burdorf & Elders, 2010). There are

[40] Organisations that provide services aimed at disease prevention and health management.

approximately 2,100 OPs nationally, with the vast majority (90%) being members of the Netherlands Society of Occupational Medicine (Nederlandse Vereniging vorr Arbeids (NVAB), 2018). OPs can be part of a private OSH service, an in-house company service, or can work as self-employed physicians (Burdorf & Elders, 2010). An estimated 61% of OPs are employed by the largest OSH services, 22% by 69 smaller providers, and 18% work on a freelance basis (Hulshof & Frings-Dresen, 2010). There are four years of postgraduate training for OPs (NVAB, 2018).

Professional practice and quality is supported by published codes of practice by the NVAB Centre of Excellence. Such guidelines are based on scientific evidence and peer-group consensus, underpinned by professional and ethical practices, and directly informed by best practice (NVAB, 2018). Many of the guidelines have undergone systematic evaluation, with results strongly supporting their clinical and cost effectiveness with regard to sick leave and disability prevention (van der Weide et al., 1999; Van der Klink et al., 2003; Rebergen et al., 2009; de Boer et al., 2008). This Centre is also involved in the development and implementation of multidisciplinary clinical guidelines for the integration of work-related aspects.

The expertise of the safety officer primarily concerns all business activities that involve the risk of injury to persons or damage to objects. The expertise of such professionals may focus on various different areas of safety (work and occupational, transport, customer or patient safety), and consequently a number of different professionals may occupy this role. An occupational hygienist focuses on recognising, evaluating and controlling particular physical, chemical and biological factors that harm the health of workers. In addition to work assessments, these professionals may also advise on appropriate action in relation to managing and preventing exposure to dangerous substances, biological agents, noise, vibrations, and so on. Finally, work and organisational professionals should have expertise in: optimisation of work content or organisation of work; development and implementation of OSH systems; and the development, improvement and implementation of policy on absenteeism. Each of these professions is supported by their own professional association: The Dutch Societies for Safety Engineering, Occupational Hygiene, and Work & Organisation Professionals. Other specialists who are not mentioned specifically in the Act, but who may also be actively involved in the multidisciplinary delivery of OH services, are OH nurses, ergonomists and psychologists, for example (Baart & Raaijamkers, 2010).

Employers' Role

Under Dutch law the employer is obliged to exercise a duty of care for employees. The Working Conditions Act (1994) further requires employers of more than 50 employees to have a so-called Work Council. The work council, or staff representatives, must approve the company's occupational health and safety policy and their policy on absenteeism. In smaller organisations without a work council or staff representation body, employers should consult directly with employees (Baart & Raaijamkers, 2010). The law also requires certain employers to meet several mandated tasks which they may be supported in doing by one or several OSH professionals (Baart & Raaijamkers, 2010). These tasks include:

- An assessment and evaluation of occupational risks and an action plan developed from the results of the risk inventory;

- Provide support for individual employees and the development of a policy on sickness absenteeism;
- Regular employee health evaluation;
- Recruitment examinations;
- In-house and emergency and first-aid services;
- Free consultation of the OP.

As described earlier, Dutch employers have clear obligations in regards to sick pay requirement. They also have obligations when an employee is off ill. The Gatekeeper Law places joint responsibility on the employer and employee for the return to work process, within a strict "gatekeeper" protocol. Reintegration, if at all possible, is a central aim (de Boer et al., 2008; van Sonsbeek & Gradus, 2011), with a concentrated focus on workplace accommodation (OECD, 2010).

The process, broadly, requires the following steps (see Table 23 for additional detail). The employer should report the sickness or impairment to the OP within the first week, who will qualify and monitor the incapacity of the employee. The employer should then draft an action plan together with the employee on how to proceed, and there should be a periodic meeting with the OP to evaluate the status of the employee's disability to work. In some cases, it could be that the employee is fit for work for a certain percentage of time. This should be coordinated by the OP, and the employer should do its utmost to provide the employee with suitable work. If no suitable work is available within the company of the employer, it can be expected that the employer funds and seeks employment elsewhere and provides for outplacement. If the two-year period of sickness has passed, the obligation to pay wages ends, unless the public Employee Insurance Agency (UWV) is of the opinion that the employer did not do enough to reintegrate the employee. In this case, the employer risks that the two-year period in which the employer is obliged to continue to pay an employee's salary, will be extended. These mandated tasks of both employers, employees and OPs are specified in the 'gatekeeper' protocol. This document outlines a fixed time structure for return to work efforts, including mandatory milestones (Mittag et al., 2015; see Table 12 for summary).

Table 23. Summary of gatekeeper protocol (Mittag et al., 2015)

Week(s) of Absence	Actions
1	Employee reports ill (no certificate need for up to 6 weeks). Employer informs OP after one week. Key players: employee and employer.
6	After consulting with the employee the OP provides a situation analysis that includes advice on recommencement of work duties. Employer starts reintegration-file. Key players: OP and employer.
8	Vocational rehabilitation plan is prepared (evaluation about every 6 weeks mandatory). Case management assignment. Key players: employee and employer.
46-52	First year evaluation to the Employee Insurance Agency, including plans for year two. Key players: employee and employer.

Week(s) of Absence	Actions
53	Employer can provide worker a job in another company. Key players: employee and employer.
87-91	After consulting the employee, the employer produces re-integration report. During week 91 the employee applies for disability benefits. Key players: employee and employer.
91-104	On the basis of the re-integration report the Employee Insurance Agency decides if the employer has to pay sick leave for another 52 weeks. Key player: Employee Insurance Agency.
105 and beyond	Disability benefits if loss of earning capacity is greater than 35%. Routine assessments during the first 5 years. Key players: Employee and Insurance Agency.

Under Dutch employment law, there is a prohibition against termination of employment during an employee's sickness (de Boer et al., 2008). This is a very strict rule in the Netherlands (for the reason of protecting the employee) and it is nearly impossible for employers to deviate from it (de Boer et al., 2008). The Netherlands has also a no-risk policy for employers when hiring disabled persons. This policy-initiative removes the usual obligation of employers to pay the sickness benefits up to two years for an employee with a disability and long-standing illness. Instead the employee's insurance covers these costs. Disability premium discounts are available to employers who hire employees with disabilities. Furthermore, should an employer hire a worker over the age of 50 or keep an employee older than 54.5 years, this earns them an additional financial advantage. They do not have to pay basic disability premium for these workers (OECD, 2010). There is no evaluation of the impact of this scheme to date.

Smaller Sized Companies

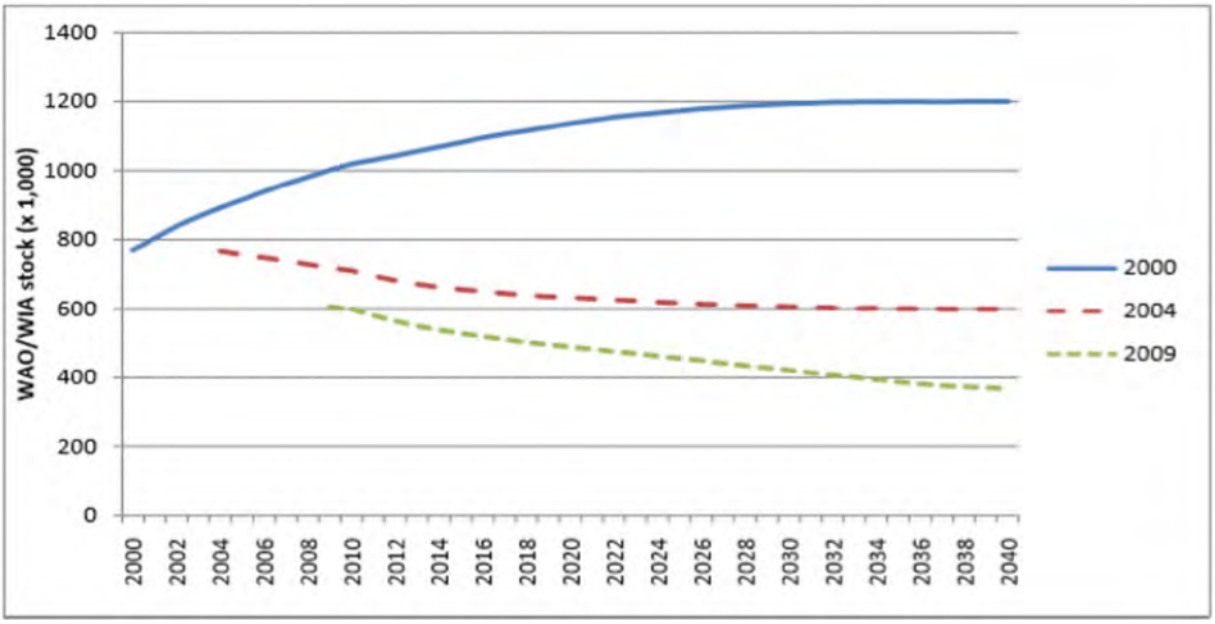
In the Netherlands, the information, consultation and participation of workers concerning occupational safety and health management in small and medium-sized companies has been previously described as scarce, with the expertise available to manage OH issues comparatively less in small companies than in larger firms (Kwantes, Houtman, & Hesselink, 2010). There are two national-level initiatives that are aimed to support SMEs in meeting minimum standards: the OSH catalogues and the Digital Risk Inventory and Evaluation. The OSH-catalogue provides an online, free and accessible set of resources, aimed to provide sector–specific solutions to SMEs. The Digital Risk Inventory and Evaluation is a free online interactive tool designed to support SMEs in various OSH prevention activities (Meeuwsen, 2008).

System Impact and Evaluation

The Netherlands has seen a dramatic decrease in sickness absence over time (Spasova, Bouget & Vanhercke, 2016). An overall downwards trend from approximately 1998 onwards in disability benefit inflow has been observed, with a slight increase from 2004 onwards (OECD, 2007). The common view is that the suite of policy reforms surrounding disability in the Netherlands (as described throughout

the case study) have been, by and large, quite successful. In 2012, Sonsbeek and Albalas conducted a series of economic simulation modelling exercises, using the number of beneficiaries under the Invalidity Insurance Act (WAO) and later the Labour Capacity Act (WIA) schemes. The aim of such simulation models was to forecast the trajectory of disability benefits at three respective time points: 2000, 2004, and 2009 (see Figure 8).

Figure 8. Long term forecast WAO/WIA schemes comparatively over three time periods (2000/2004/2009) to 2040 (Van Sonsbeek and Alabas, 2012)



The *2000 simulation model* clearly demonstrates the value and need for such policy reforms. This model estimates that the number of disability cases would have increased to 1.2 million by 2040, equating to 17% of the working population, if such policy reforms had not occurred. The *2004 simulation model* (accounting for the combined effect of 2000 and 2004 policy reforms) estimates the number of beneficiaries (WAO scheme) stabilizing at 600,000 by 2040. An estimated 50% lower than the 2000 simulation. The *2009 simulation model* (combined effect of all pre 2009 policy reforms) observed that the WIA scheme caused another large decrease of the number on benefits. The number of disability claimants were estimated to stabilize around 370,000 by 2040, almost 70% lower than the 2000 simulation and 40% lower than the 2004 simulation models. This substantive reduction over time is thought to be the result of key policy reforms during this time period.

There are other national-level initiatives that received some level of evaluation. While such evidence does not directly speak to causality, it does suggest such initiatives have been positively viewed by key actors in the system, including: OSH covenants & OSH (Arbo) catalogues, and the Netherland's Society of Occupational Medicine evidence-based practice guidelines.

Mechanisms of Systems

- The use of social dialogue within the workplace and across social partners is a key feature of this system. While there is no direct evaluation of its impact in the delivery, coverage or impact of OH services, the OH community in the Netherlands (and beyond) has upheld it as an interesting and innovative approach to use.
- The use of 'soft' forms of law, for example the OSH catalogues. Such soft law initiatives are strongly characterised by social dialogue among social partners, are prevention-focus and sector-specific/relevant.
- Strong focus on employer-led initiatives supported by toolkits, guidance and resources.
- The use of policy-levers, supported by employers, to support employer-led return to work approaches.

Lessons Learned

- There has been a strong focus on the management of sickness absence and disability in the workplace, which has resulted in limited focus on prevention within OSH services. The national level agenda is seeking to change this.
- The successful combination of a framework of legal requirements, supplemented by tailor-made approaches and enforcement and fines as control mechanisms for the legal requirements.
- Health policy can be stimulated by economic incentives, and the use of incentives to create a common set of goals for all key stakeholders (e.g. employers, employees, trade unions, insurance companies, government, and so on).
- The development of professional guidelines has been a useful approach to support, enhance and standardise OH care and quality.
- While OPs remain key actors, there is a broad orientation of OH delivery that requires a more multidisciplinary perspective.
- With an increased number of workers with chronic illness (largely due to the ageing workforce), there is growing focus on how to facilitate/ensure their sustainable work engagement. OH healthcare will have to be integrated early in the treatment process.
- With a growing number of self-employed and SMEs providing them access to OH services is a key national priority.

United Kingdom

Key Features

- OH service provision is voluntary.
- OH services are typically outsourced and market-driven, but many employers in the UK offer in-house provisions.
- Non-mandatory certification systems for the accreditation of OH services in the UK to support service quality.

The introduction of several key policy initiatives, current and historical, aimed to support workers with a disability, aliment or illness to remain at or return to work (e.g. the fit note, Fit for Work Service, recent policy strategy 'Improving Lives: The Work, Health and Disability Green Paper' 2017).

National Context

The United Kingdom (further referred to as the UK) has a population of around 66 million people, and is the fifth largest economy in the world (IMF, 2018). There is an estimated 32.4 million people in work in the UK. The employment rate in 2018 was 75.7%, which is the highest since comparable records began in 1971 (Office for National Statistics; further referred to as (ONS, 2018a). In May 2018, there were 8.64 million people aged from 16 to 64 years who were economically inactive, with almost a quarter of this group (23.2%) on long-term sick (ONS, 2018a). Since 1993, the average number of recorded sickness absence days has almost halved (ONS, 2018b).

An estimated 141.4 million working days were lost because of sickness or injury in the UK in 2018, the equivalent to 4.4 days per worker. The sickness absence rate was relatively flat between 2010 and 2018 and stood at 2.0% in 2018. The groups with the highest rates of sickness absence in 2018 were women, older workers, those with long-term health conditions, people working part-time, and those working in organisations with 500 or more employees. The groups with the greatest reduction in sickness absence rates between 1997 and 2018 were workers with long-term health conditions, workers aged 50 to 64 years, and those in the public sector. The four most common reasons for sickness absence in 2018 were minor illnesses (including coughs and colds), musculoskeletal problems (including back pain and neck and upper limb problems), "other" conditions (including accidents, poisonings and diabetes), and mental health conditions (including stress, depression and anxiety; ONS, 2019).

Historical Background

The rapid transformation of British from an artisan, agricultural to industrial, manufacturing-based economy brought an increase in untrained workers (including children) handling machinery and poor working condition. This led to a rapid raise in work-related accidents and also various forms of illness and disease. During this period of time, the following were the early areas of development.

- 1775: Percivall Pott, a surgeon, finds an association between exposure to soot and a high incidence of scrotal cancer in chimney sweeps, the first occupational link to cancer.
- 1832: Publication of the definitive edition of Charles Turner Thackrah's book about industrial diseases. As a result of this work, OM as a discipline is established.
- 1802: Health and Safety legislation (Health and Morals of Apprentices Act) was introduced by Sir Robert Peel.
- 1833: The Factory Act comes into force in an attempt to improve working conditions. Later amended through the Factories Amendment Act 1844 and 1948.
- 1898: Sir Thomas Marison Legge becomes the first inspector of factories in England and writes about lead poisoning and lead absorption in 1912.

The 20th and 21st century brought many key developments to area of occupational health. Tables 24 and 25 provide a short and cursory overview of key developments during this period.

Table 24. Key historical developments in OH during 20th century (adapted from Health Management, 2018)

Decade	Summary of Key Events
1910s	• Foundation of ILO, made up of employers, governments and workers.
1930s	• Association of Industrial Medical Officers (later Society of Occupational Medicine) is formed.
1950s	• ILO and WHO form a shared definition of OH. • The Dale Report recommends the expansion of industrial services into a national occupational health service. • Royal College of Nursing Occupational Health Section is established. • British Occupational Hygiene Society is formed. • Donald Hunter publishes 'The Diseases of Occupations'.
1960s	• Tunbridge Report 'The Care of the Health of Hospital Staff' is published in 1968 recommending hospital occupational health services.
1970s	• The publication of the Robens Committee on Health and Safety report in 1972, which leads to the introduction of the Health and Safety at Work Act in 1974. The Health and Safety Executive established under this Act, and ascribed with power to enforce these employer duties and penalties for non-compliance The Health and Safety Commission (HSC), was also established under the Act, for the purpose of proposing new regulations, providing information and advice and conducting research. • 1973 saw the entry of the UK into the European Economic Community, initiating the requirement for the UK to implement European directives on health and safety, and discrimination. In addition, the Health and Safety Executive Employment Medical Advisory Service became operational this same year. • The Faculty of Occupational Medicine is created within the Royal College of Physicians.
1980s	• Royal College of Nursing publishes the 'Education of the Occupational Health Nurse'. • Control of Substances Hazardous to Health Regulations (COSHH) becomes operational in 1988.
1990s	• In 1992, the Association of Occupational Health Nurse Practitioners (UK) is founded. • The Management of Health and Safety at Work Regulations is enacted in 1999.

Table 25. Key historical developments in OH during 21st century (adapted form Health Management, 2018)

Decade	Summary of Key Events
00's	• Health and Safety Commission's 'Securing Health Together' 10-year occupational health strategy is launched in 2000. • The Health and Safety Executive introduce the Management Standards in 2004, driven primarily by the growing awareness of the need to tackle and manage work-related stress. • Commercial Occupational Health Providers Association (COHPA) is launched in 2004. • Publication of Dame Carol Black's report 'Working for a Healthier Tomorrow' (2008). • In 2009, the Council for Health and Work is formed with an independent chair, and 'NHS Health and Well-being', the Boorman review, is published.
10's	• In 2010: Fit Note replaces 'sick note', allowing GPs to suggest work that patients may be able to perform before fully recovering from illness. Safe Effective Quality Occupational Health Service (SEQOHS) is launched. SEQOHS is a set of standards and a voluntary accreditation scheme for OH services in the UK and beyond. • In 2011, the following were published: 'Health at Work – An independent review of sickness absence' by Dame Carol Black and David Frost recommends a national health and work service; The Royal College of Nursing publishes "Roles and responsibilities of occupational health nurses"; Publicly Available Specification (PAS) 1010 (British Standard Institute)"Guidance on the management of psychosocial risks in the workplace"; and the Lőfstedt report, "Reclaiming health and safety for all: an independent review of health and safety legislation'" report. • Fit for Work service is launched (2014) and, subsequently, closed in 2018. However, the website is still functioning. • October 2016, the Institution of Occupational Safety and Health published a free guide to help organisations manage employee health. • In 2017, the National Institute of Health and Care Excellence (NICE) guidance on the health and wellbeing of employees, the "Good work: The Taylor review of modern working practices"; and "Thriving at Work: a review of mental health and employers" reports were published. • PAS 3002 (British Standard Institute) Code of practice on improving health and wellbeing within an organisation published in 2018. • In 2019, NICE published guidance covering managing long-term absence from work and capability to work.

Following from the Factory Regulation Act, subsequent legislation developed in a reactive manner to specific situations, the identification of occupational diseases, or the emergence of new hazards as a result of technological developments (e.g. electricity; Rimington, McQuaid & Trbojevic, 2003). Regulations and associated bodies were formed during this time in an attempt to protect workers from each hazard as they arose (e.g. the Mining Inspectorate, the Railway Inspectorate; Rimington et al., 2003). By the 1960's there were over 500 pieces of legislation in the area of workers' health, wellbeing and safety (Fairman, 1994).

Another significant development during this period was changes in the manner to which sickness absences from work were certificated through the Statement of Fitness for Work ('fit note'). The Statement of Fitness for Work (the Med3 form or 'fit note') was introduced in April 2010 across England, Wales and Scotland. It enables doctors to give advice to their patients about the impact of their health condition on their fitness for work and is used to provide medical evidence for employers or to support a claim to health-related benefits through the Department for Work and Pensions (DWP). The fit note was introduced in April 2010, replacing the previous Medical Statement (more commonly referred to as the 'sick note'). The aim of this policy reform was to (DWP, 2014):

- improve back-to-work advice for individuals on a period of sickness absence;
- improve communication between GPs, patients and individuals and their employers on what a patient can do, and how and whether a patient's condition could be facilitated in work;
- reduce sickness absence and support people with health conditions to stay in or return to work more quickly; and
- contribute to 'creating new perspectives on health and work', and improve awareness and understanding of work for good health.

Like the sick note, the fit note allows doctors to state if the individual is not fit for work, but also provides a secondary option of '*may be fit for work',* where they can record details about the functional effects of their patient's condition. The fit note also provided space for the doctor (usually a GP) to suggest simple changes to the work environment or job role, or other recommended steps, aimed to help and support the workers' successful return to work as early as possible and/or in graduated capacity (Lalani et al., 2012).

In 2017, National Institute for Clinical Excellence (NICE) published its Department of Health endorsed quality standard, which covers the health and wellbeing of all employees, including their mental health. It describes high-quality care in priority areas for improvement, but does not cover managing long-term sickness absence. In 2019, NICE published guidance on workplace strategies to support long-term sickness absence and capability to work. In 2018, a PAS (Publically Available Specification) 3002 – code of practice on improving the health and wellbeing within an organisation: a new British Standards Institute (BSI) standard on improving health and wellbeing in organisations was published.

Over the years, the growing shortage of OH physicians and nurses have added to recent calls for the specialty to be integrated fully within the NHS A government paper on work, health and disability recognises the importance of more comprehensive provision of OH to people of working age and proposes exploring service models that

integrate OH into both primary and secondary care (DWP, 2016). In the interim, the demand for OH services has been, and continues to be met by a growing number of private providers, as OH service provision is often outsourced and market-driven.

Legal & Policy Context

OH service provision is not legally mandated in the UK. In 2008, the UK ratified the ILO's Promotional Framework for Occupational Safety and Health (No 187), but has not ratified the conventions of OH services (No. 161) or Occupational Safety and Health (No. 155). The current national strategy to promote the health and work capacity of the working age population is "'Improving Lives: The Work, Health and Disability Green Paper' 2017". The aim of this strategy is the reduction of ill health-related job loss, and outlining the role of government and employers there within. In particular, to support the early action by employers for their employees with long-term and chronic health conditions, and to improve access to quality, cost-effective occupational health (British Government, 2019). There are several laws in the UK that are relevant when managing sick leave and return to work. These include the Equality Act 2010, the Employment Rights Act (1996), and the Health and Safety at Work Act (1974). The Health and Safety at Work Act 1974, supported by the Management of Health and Safety at Work Regulations 1999, outlines the wide-ranging duties required of employers to exercise their duty of care for their employees.

The Health and Safety at Work Act 1974 is the primary piece of legislation covering occupational health and safety in Great Britain. It applies to all employers and the self-employed. The Act sets the minimum standards (duties) for the protection of employees and others (e.g. public) exposed to risks to their health, safety and welfare. The Management of Health and Safety at Work Regulations (MHSWR) 1999 generally make more explicit what employers are required to do to manage health and safety under the HSWA. Like the HSWA, they apply to every work activity. The regulations require an employer to appoint one or more competent people to help them implement the measures they need to take to comply with the legal requirements.

The Equality Act came into force on 1 October 2010, bringing together more than 116 separate pieces of legislation into a single act. In 2011, the Lőfstedt report was an important policy development as part of the deregulation agenda. It protects people from discrimination, harassment and victimisation. It replaced the Disability Discrimination Act (2005) in England, Scotland and Wales, as well as other former equality acts and regulations, though the Disabilities Discrimination Act (2006)[41] still applies in Northern Ireland. The Equality Act 2010 legally protects people from discrimination in the workplace, and it replaced previous anti-discrimination laws with a single Act. The Equality Act provides particular provisions relating to disability. Some key examples include protection against discrimination at work and when applying for a job, and the need for employers to make reasonable adjustments. The Equality Act 2010 is accompanied by a set of Code of Practices to support employers in meeting their duties (see Equality and Human Rights Commission, 2011). Employers' failure to comply with such duties is considered unlawful, and

[41] The Disability Discrimination Act makes it unlawful to discriminate against disabled persons in connection with employment.

a disabled worker has the right to take a claim to the Employment Tribunal based on this. Finally, the Employment Rights Act (1996) requires employers to adopt fair procedures before dismissing employees on grounds of sickness absence.

The legal and policy context in the UK, however, has been significantly affected due to trends towards deregulation, with softer forms of regulation being on the increase (Leka et al., 2016). In 2005, the Hampton Review ('Reducing Administrative Burdens: Effective Inspection and Enforcement') was published as part of the government's better regulation agenda. The review placed emphasis on voluntary standards that regulators should acknowledge during inspection and enforcement. These include those developed by the British Standards Institution (BSI), which developed the standard on occupational health and safety management system: BS 8800. This standard later went on to become the OHSAS 18000 series standards, the most widely used occupational health and safety standard globally (BSI, 2012); and subsequently later developed into the International Standard for Occupational Health & Safety Management Systems – International Organization for Standardization (ISO) 45001 (2018). The BSI also developed the first guidance standard on psychosocial risk management in the workplace – PAS1010 (BSI, 2011) and in 2018 a code of practice on improving the health and wellbeing within an organisation.

Healthcare and Social Security System

Healthcare in the UK is a devolved matter, with England, Northern Ireland, Scotland, and Wales each having their own systems of publicly funded healthcare. The National Health Service (NHS) was formed in 1948. This service provides universal healthcare services and support for anyone one in the UK in need of primary or secondary care. The NHS does not, however, provide universal access to OH services.

The UK social security system provides a wide range of support for sick and disabled people (Hood & Keiller, 2016). A person can claim Statutory Sick Pay (SSP) if they cannot work because they are sick or disabled, whether that be temporarily or permanently. During a short-term illness, people can claim SSP from their employers from 4 days up to 28 weeks. Employers may offer more if they have a company sick pay scheme. However, in cases of long-term sickness, or if a person does not work for an employer (e.g. the self-employed), they may receive Universal Credit following a work capacity assessment. Universal Credit is paid monthly, or in Scotland twice a month.

Individuals (aged 16-64) with a long-term health condition or disability that affects their ability to live independently may be entitled to claim Personal Independence Payment (PIP). This benefit scheme is gradually replacing Disability Living Allowance for people in the qualifying age group. Industrial Injuries Disablement Benefit is available to support people who are ill or disabled from an accident or disease caused by work. This is a 'no-fault' scheme paid by the Department for Work and Pensions. The level of a claimant's disability will affect the amount of benefit they may receive, and is, consequently, formally assessed by a 'medical advisor' on a scale of 1 to 100%. If an employee is injured in an accident at work or falls ill due to a work-related disease, they can also make a claim for injury compensation against their employer.

In August 2017, there were 2.4 million people on Employment and Support Allowance (used prior to the implementation of Universal Credit scheme) and other incapacity benefits, while there were 3.7 million claimants on PIP and Disability Living Allowance. Over the next few years, the numbers of Employment and Support Allowance (ESA) claimants will gradually decrease as Universal Credit rolls out and replaces this benefit (DWP, 2018). However, a new style ESA will continue to exist for those that have paid enough National Insurance Contributions over the previous 2 years (British Government, 2020). In 2018–19, the total expenditure on ESA was estimated at around £13.4million, of which £4.5billion was contribution-based and £8.9billion was income-based (DWP, 2020).

Occupational Health Service Model

OH service provision is voluntary. Many OH services are outsourced and market-driven. However, some employers in the UK provide in-house provisions. While in many European countries employers are obliged by law to organise OH services for their employees, there is no corresponding legal requirement in the UK (Raynal & Hermanns, 2018). An estimated 51% of British employees have access to OH services (DWP, 2015).

Employers in the UK typically provide OH services through three key avenues: in-house; direct appointment; or through a private OH provider (IOSH, 2016). Since 2010, an accreditation system for OH services in the UK exists (BMA, 2017) in order to support employers who choose to out-source their OH services. The Safe Effective Quality Occupational Health Services (SEQOHS) is a set of standards and a voluntary accreditation scheme for OH services. The primary role of SEQOHS is to assess whether standards are being met, and to help raise the overall standard of care provided by such services. A list of accredited services is published by SEQOHS, and is continually updated as new services receive accreditation. SEQOHS is one of a number of voluntary accreditation schemes.

In 2017, the UK market for OH provision is believed to have grown by 7%, almost double the annual growth recorded in the previous year. In particular, outsourced specialist OH providers have accounted for the majority of growth in this area over the last five years. In-house provision is less common, but still strong characterises the delivery OH provision in the UK. Limited growth has been observed for in-house OH service provision (Mintel, 2018).

An estimated 51% of British employees have access to OH services (DWP, 2015). A study commissioned by the Department of Work and Pensions and the Department of Health and Social Care found nine in ten large employers (92%) provided OH services compared to 18% of small employers. The main reason employers gave for not providing OH services was a lack of employee demand for the service/employees not disclosing they were in need of OH (37%). Overall, 35% of employers cited cost as the main barrier (too expensive, 22%; or too few cases to justify the expense, 13%; Tu, Maguire & Shanmugarasa, 2019). Employers in Great Britain reported three key reasons to offer OH services:

- To comply with legal and regulatory obligations.
- To reduce costs and improve business efficiency. In particular, employers highlighted the costs associated with sickness absence and wanted to limit them.

- To support and improve employee health and wellbeing, with many employers reporting feeling they had a moral duty of care to their employees.

OH services are not directly or purposively integrated within current NHS services and provisions for the general working population,[42] albeit employees may receive some OH-related medical care through primary or secondary care. However, the growing shortage of OH physicians and nurses has added to recent calls for the specialty to be integrated fully within the NHS. The Department for Work and Pensions conducted a consultation exercise in 2019: "Health is everyone's business: proposals to reduce ill health-related job loss". This consultation examines different ways in which government and employers can take active steps to reduce ill-health related job loss. The identified proposals aim to support and encourage early action by employers to support employees with a disability or long-term health condition and, in turn, to improve access to quality, cost-effective occupational health services and provision.

The Fit for Work service (government-funded initiative) was designed to support people in work with health conditions and, in turn, help with sickness absence. The Service launched in 2014. It provided OH advice and support for employees, employers and GPs to support individuals with a health condition to remain or return to work in a phased, supportive capacity. There were two elements to the service:

- ***Assessment:*** Once the employee has reached, or is expected to reach, four weeks of sickness absence they would normally be referred by their GP for an assessment by an OH professional, who would look at all the issues preventing the employee from returning to work. This assessment seeks examined both issues directly related to health and work, and contributing non-health and non-work issues.
- ***Advice:*** Employers, employees and GPs could access advice via a phone line and website.

Following very low referrals, it was announced that the Fit for Work assessment service would come to an end in England and Wales on 31 March 2018 and 31 May 2018 in Scotland. However, employers, employees and GPs will continue to have access to the same Fit for Work helpline, website and web chat, which offer general health and work advice as well as support on sickness absence (DWP, 2018).

Occupational Health Service Staffing

OH services are typically staffed and supported by OH physicians and nurses, although a wider spectrum of professionals may be required to support additional, more specialised services or provide tailored advice (e.g. psychologists, ergonomists, occupational hygiene specialists, etc.). A number of dedicated occupational health providers operate at a national level in the UK. The industry trade association (COHPA) has over 100 members, which the association believes accounts for approximately 70% of the outsourced market (Mintel, 2018).

It is estimated that only around 13% of the UK labour force has access to a specialist OP (McDonald, 2002). At the national level, however, GPs play a key role in supporting the management of OH. The voluntary OH services standards for accreditation make several recommendations in relation to staffing (SEQOHS, 2015).

[42] However, OH services exist within the NHS for their staff.

It recommends that OH services: (i) should ensure staff members are competent to undertake duties for which they are employed; (ii) should employ at least one OH professional who has a qualification in occupational medicine (OM) or OH; and (iii) must have access to a named OP. As of the start of March 2018, approximately 207 OH organisations had been accredited with the SEQOHS standard (this does not include those that are working towards obtaining their SEQOHS accreditation), representing more than 40% of all OH services in the UK and covering more than five million workers. It is important to note, however, the OH providers do not have to sign up to SEQOHS (or any of the other voluntary accreditation schemes) and many don't as it is expensive (Mintel, 2018).

The outlined competencies of an OP should include: advising on law and ethics; diagnosis of complex cases; assessment of occupational hazards to health; assessment of disability and fitness for work; communication; assessment of environmental exposures to health; research methods; health promotion and management (Reetoo, Macdonald, & Harrington, 2004). In this national context, doctors practicing OM should have had further training in this field. However, there is a variety of levels of training nationally, which employers (or those procuring OH services; British Medical Association, 2017) should be aware of. For example, some doctors (e.g. GPs) may have some basic training in OM (e.g. completed a Diploma in OM), which would provide them with a foundational knowledge in how work affects health and health affects work. Such professionals are, therefore, generally equipped to provide day-to-day advice, but would need to consult on more complex issues. Specialists in OM (those with 4 years' worth of specialised training post medical doctor training) will have an in-depth knowledge in this field, supported by further training and practical experience. In short, such professionals are fully knowledgeable on OM theory, practice and delivery and will be Members or Fellows of the Faculty of OM. Some practitioners may hold the qualification of Associate of the Faculty of OM. This qualification (which is currently being phased out) indicates that an individual has core knowledge in the field of OH, but is not a 'specialist'. There is an acknowledged shortage of OPs nationally in the UK. In a recent report, just under half (44%) of OH providers had roles they were unable to fill, most commonly OH nurse or physician roles (DWP & DHSC, 2019c).

The occupational health nurse role is varied, this includes understanding the effects of work on health and health on work e.g. risk assessment, risk management, activities to prevent work-related ill health, sickness absence management, health promotion, education and training (Nursing and Midwifery Council register, part 3). In the UK, OH nursing is a career path that's open to any qualified nurse, but may be particularly suited to adult or mental health qualified nurses (Farrah, 2011). OH nurses must be registered on the Nursing and Midwifery Council register (part 3) in order to practice, and have an appropriate postgraduate qualification in OH or basic experience in OH. The Faculty of OH Nurses (2019) has begun work on developing education standards and a career development framework for this group of professionals.

GPs and other professionals (e.g. physiotherapist, psychologists, ergonomists) have a contributory role in supporting the health of working people and in enabling them to stay in or return to work. GPs can help to prevent their patients falling out of work by undertaking the following actions: (i) emphasising to the patient the potential role of work in recovery; (ii) discussing with a patient what their job involves; (iii) recommending possible adjustments to their work to enable a prompt return to

work; (iv) using the fit note to advise employers of recommended adjustments; and (v) referring the patient on to specialist healthcare or employment services (e.g. Improving Access to Psychological Therapies employment services; Thomson & Hampton, 2012). The previously discussed introduction of the fit note was introduced with a specially designed national educational programme for GPs, distinct from the broader Diploma in Occupational Medicine also available to GPs (Cohen et al., 2012).

Employers' Role

The UK national legislative framework requires employers in the UK to exercise a duty of care to their employees while at work, and in so doing ensure their health (including mental health), safety and welfare. Employers have a duty to appoint 'one or more competent persons' to help them meet their duty regarding the protection and promotion of employee health and safety. Employers can either get or develop this help in-house, seek external help or advice if in-house help is inadequate, or use a combination of both.

There are a number of different sources of external advice available to employers to support them in discharging their duty of care. These include OH professionals, trade associations, safety groups, trade unions, health and safety consultants, local councils, health and safety training providers, and health and safety equipment suppliers (HSE, 2007).

Under the Equality Act 2010, employers must consider making "reasonable adjustments" for an employee or job applicant with a disability. Such adjustments could include, for example, working shorter hours or providing employees with specialised equipment. Advice and financial support are available in certain circumstances to employers to support them in this role (such as, Access to Work). There is, however, no employer obligation regarding vocational rehabilitation, except for allowing rehabilitation absences if such a provision is viewed as a reasonable adjustment (OECD, 2012). As outlined previously, employers are responsible for statutory sick pay for a period of 28 weeks. However, there are no further obligations on employers in terms of monitoring and managing sickness absence (OECD, 2012).

Incentives have been used to promote the management of OH by employers, including both financial (e.g. insurance-related incentives, funding schemes, and tax-based incentives) and non-financial (e.g. including recognition schemes such as awards). From 1st January 2015 the government introduced the Income Tax (Recommended Medical Treatment) Regulation. This regulation sets out an exemption from income tax where an employer funds recommended medical treatment of up to £500 per employee per tax year, where the recommendation is made to an employee as part of an OH service for the purpose of assisting the employee to return to work after a period of illness or injury (HM Revenue & Customs, 2014). Prior to the implementation of this regulation, the cost of any medical intervention funded or provided by an employer was likely to be liable to tax as either a benefit in kind or a payment of earnings. Some employers believe this created a disincentive for them to fund employee medical treatments.

Smaller Sized Companies

In the UK, small and medium sized enterprises make up 99.9% of the business population (5.7 million businesses), with 99.3% of these businesses being small in size (0 to 49 employees; Department for Business, Energy and Industrial Strategy, 2018). An estimated 60% of British employees work for micro, small and medium sized enterprises employing 0-249 people (Department for Business, Energy & Industrial Strategy, 2018). For many of these enterprises it is not practical to employ their own OH staff (Nicholson & Wilson, Overall, long-term absence tends to be much lower in SMEs (DWP & DHSC, 2019). One of the reasons is likely to be that SMEs are less likely to have occupational sick pay, making it less attractive for employees to take sick leave. However, set against this, a disproportionate number of people come from SMEs onto ESA without first going onto sick pay (Black & Frost, 2011). As SSP policy has evolved, there has been greater assistance for SMEs. The payment threshold scheme provided compensation for employers who faced high levels of sickness absence. They were entitled to recover some of the statutory sick pay actually paid to their employees. This scheme, however, closed in 2016.

System Impact & Evaluation

Sickness absence in the UK have been on the decline (ONS, 2018b), and are the lowest since records began. However, these reductions cannot be entirely attributed to the features of the OH system due to a lack of evaluative data (Nesta 2 standard; Puttick & Ludlow, 2013). There have been evaluation studies carried out on specific policy initiatives and approaches, such as Fit for Work and the Managements Standards for Work-related Stress.

The government set up a number of local pilot services to examine the viability and success of the Fit for Work service. In its first two years the Nottinghamshire pilot supported over 500 individual cases. The service is reported to have successfully helped 83% of such cases to remain in or return to work (Coole et al., 2015). In the fuller evaluation of Fit for Work (Gloster, Marvell and Huxley, 2018), 65% of referred employees had returned to work within two to three months. However, it is important to note the evaluation of this service did not look at the additional outcomes users may have experienced during this intervention period. Nonetheless, this evaluation did highlight a number challenges and limitations, including the fact that drop-out before assessment was high, and some of the provided recommendations were not tailored to individual workplace contexts.

A systematic review (Dorrington et al., 2018) aimed to evaluate the implementation and impact of fit notes in relation to sickness absence management. This review identified and reviewed thirteen papers representing seven independent studies. This review observed inconclusive evidence on the utility of fit notes in relation to sickness absence. However, the review importantly highlights that the benefits and impact of fit notes has been incompletely researched, and their use is not always implemented as intended. Dorrington et al concluded that it was therefore difficult to conclusively determine the effectiveness of this policy initiative.

In regards to the Management Standards for the Management of Work-related Stress, Packham and Webster (2009) note that between 2004 and 2009 there have been no significant changes in the stresses experienced at work by workers in the UK. The authors concluded that the expected decreases to the key risks

associated with work-related stress (e.g. high job demands, low control at work) since its implementation have not yet materialised. Moreover, the number of workers reporting that their job is highly stressful is no longer steadily decreasing. However, perceptions regarding organisational change and management support have improved significantly post-implementation of this policy initiative (Packham and Webster, 2009). Cox et al. (2009), Tyers et al. (2009) and Broughton et al. (2009) collected data from organisations implementing the Management Standards. These authors found several barriers to their implementation including: lack of resources, lack of management competence, lack of senior management buy-in and sensitivity regarding stress. Conversely, the following factors facilitated the implementation of the Standards: effective stress and absence policies, management involvement, good data collection and a supportive environment. Therefore, when considering the effectiveness of the Management Standards in decreasing work-related stress, it is important to consider the role of barriers to its implementation in organisations.

Mechanism of Systems

- Advice, guidance and support for employers to provide OH-led care.
- Numerous voluntary accreditation schemes for OH service standards.
- Long established professional associations (e.g. Society of Occupational Medicine) and training programmes for OH professionals.

Lessons Learned

- While there is good awareness of health and safety issues amongst many stakeholders (employers, trade unions, employees, and policy makers) research has highlighted a greater focus on occupational safety as opposed to occupational health. There is value to be added by promoting a holistic view of occupational safety and health, and for the further development of knowledge and skills of practitioners in relation to occupational health.
- Working in partnership and collaboration among stakeholders is important to overcome constraints, expand the coverage of occupational health services and promote good practice in sickness absence management.

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Annex A – Detailed Overview of ILO Convention on OH Services

Summary of ILO Convention on OH Services (ILO, 1985): Key Principles, Functions, Organisation of Services, and Conditions of Operation

Key **principles** to OH Services:

- Provide preventive functions and advice for employer, workers and their representatives on (among other things): cultivating a healthy and safe work environment and the adaption of work to the capabilities of workers in light of their physical and mental health.
- Formulate, implement and periodically review a coherent national policy on OH services.
- To work towards comprehensive coverage of OH services for all workers.
- A competent national authority must ensure the necessary measures are taken to give effect to the provisions of this Convention.

Key **functions** to OH Services:

- Identification and assessment of the risks from health hazards in the workplace.
- Surveillance of the work environment and working practices that may affect workers' health.
- Surveillance of workers' health in relation to work.
- Advice on the planning, design and organisation of work (including the design of workplaces), on the choice, maintenance and condition of machinery and other equipment and on substances used in work.
- Participation in the development of programmes for the improvement of working practices, as well as testing and evaluation of health aspects of new equipment.
- Advice on occupational health, safety and hygiene, and on ergonomics and individual and collective protective equipment.
- Promoting the adaptation of work to the worker.
- Contribution to measures of vocational rehabilitation.
- Collaboration in providing information, training and education in the fields of OH, hygiene and ergonomics.
- Organising of first aid and emergency treatment.
- Participation in analysis of occupational accidents and occupational diseases.

Key principles to the **organisation** of OH services:

- Provision for the establishment of OH services should be made through: law or regulations; collective agreements; or any other manner approved by competent author after consultation with representatives of employers and workers.
- They can be organised as a single undertaking, or service common to a number of undertakings.
- They may be organised by the enterprise or groups of enterprises concerned; public authorities or official services; social security institutions; any other bodies authorised by the competent authority; or a combination of any of the above.
- The employer, the workers, and their representatives (where they exist) will cooperate and participate in the implementation to OH services on an equitable basis.

Conditions of operation for OH services:

- OH services should be multidisciplinary, and carry out their functions in co-operation with other services.
- Measures should be taken to ensure adequate co-operation between such services, and the provision of other health services.
- OH service personnel should enjoy full professional independence from employers, workers, and their representatives
- Health surveillance should be free of charge to employees and occur during working hours.
- Workers are informed of relevant work-related health hazards.
- Provision of OH services should be informed by known or suspected factors in the work environment that may affect workers' health.
- OH services are informed of the occurrence of ill health among workers and absences from work for health reasons.
- Personnel providing OH services are not required by employers to verify the reason for absence from work.

Annex B – Overview of Research Methodology

Project Method

The current study aimed to develop a series of case studies outlining the national level OH systems and provisions within the purposively selected national contexts. The international review of case studies of OH systems and provisions was conducted in a structured and documented manner. This process involved three key phases: preparation phase, data collection phase and data analysis phase (see Figure 9 for an overview). An **iterative, step-wise procedure was utilised throughout the project**.

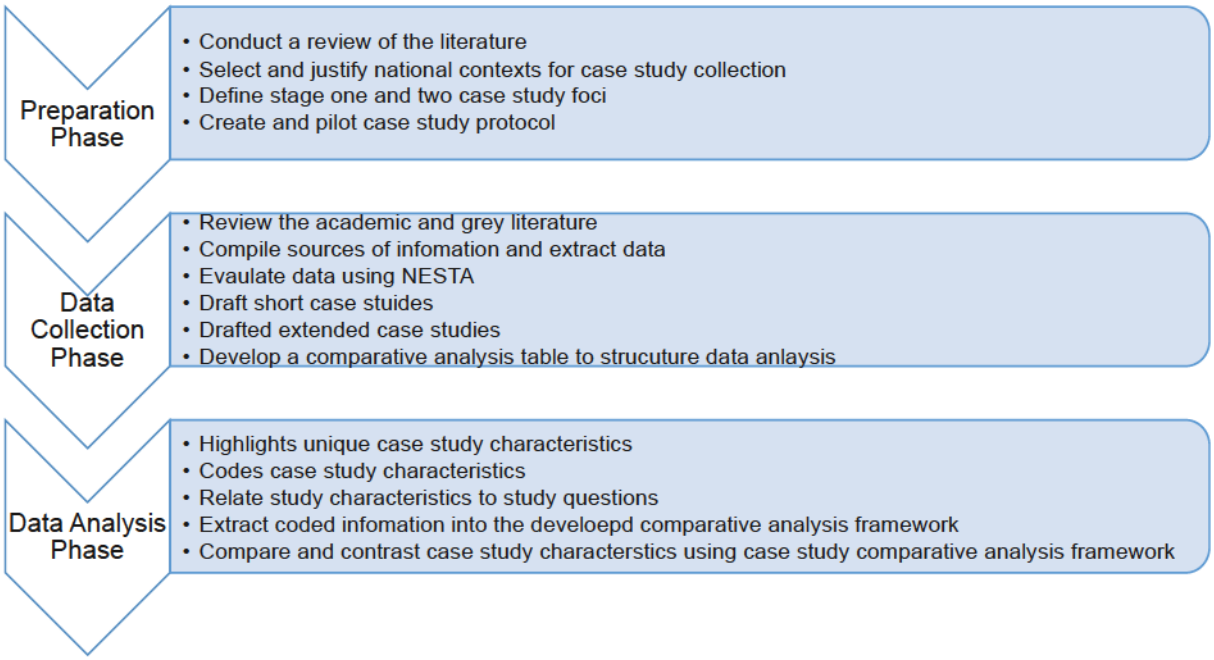
To facilitate the achievement of both breadth and depth of knowledge, within the limited time scale of the project, we employed an iterative, two-stage research process. This process involved developing a collection of six summary-level case studies; and, subsequently, completing six extended, evaluative-level case studies.

The focus of the six *summary-level case studies* was to examine, summarise and extract information regarding the key characteristics, coverage and delivery methods of OH systems and provisions across a selected number of national contexts (n=6). These summary-level case studies yielded a descriptive overview and summary ~ broadly ~ of: (i) state of worker's health at national-level; (ii) the legal and policy context for occupational health and safety; (iii) the content, coverage and delivery of OH services at the national-level; and (iv) key performance indicators for the reviewed system.

A collection of six extended, evaluative-level case studies was conducted. The focus on the six extended, evaluative-level *case studies* was not to provide an exhaustive account of such systems and provisions; rather a concentrated focus on detailing information in regards to the implementation and evaluation of such characteristics, processes and policies. Furthermore, we sought to contextualise such findings within their national, historical, and socio-economic contexts. NESTA evidence standards (see Annex C) were used to evaluate the strength of reviewed evidence.

The project was conducted in three key phases: preparation, data collection and analysis. The procedures used during each of these phases is detailed in the following sections.

Figure 9. Overview of case study development and analysis methodology



Preparation Phase

The following section provides an overview of this initial stage of the project. Key tasks completed during this stage of the project were: review of the literature, selection and justification of the case study collection; and development, review and pilot of the case study review protocol.

Review of the literature

The initial stage of the project conducted a **narrative-style review of the literature**, examining both the academic and grey literatures. As part of this process, the standards, principles and approaches in OH systems and provisions were examined, and key publications and policies compiled and reviewed. The derived information directly informed: (i) the proposal of national-contexts to examine; (ii) the case study protocol; and (iii) comparative analysis.

Selection of case studies: rationale

Welfare states, health services, and industrial relations systems vary among EU member states. Placing each system or regime into one of several categories simplifies the situation in each country and makes each country an idealised version of a certain system or regime. However, the classification of systems and regimes makes the comparison easier to some extent. In the Scandinavian countries, with a Beveridge health care system and strong national institutions, the coverage by health services is relatively universal and relatively well institutionalised. Also, trade union density is high. In Bismarckian countries, health services as a benefit is related to the position in the labour market. Trade union density varies, but trade unions are also powerful, especially in Germany and France. The southern European countries have mixed health systems, due to reforms in health care and the decentralisation of administration towards regions and local communities. The approach in Anglo-Saxon welfare states can be characterised by universal health services. Trade union density is low, and their interests in and influences on OHS is low. In relation to the

financing of welfare systems, most of the welfare or health care benefits are covered by taxation or insurance. Table 26 presents the relations between welfare state and health care systems.

Industrial relations systems have been classified as bilateral (employers and trade unions), state centred, and corporatist (capital, labour, and states; Nieminen, 2005). The most uniform groupings are between Nordic countries and Anglo-Saxon countries. Scandinavian welfare states have Beveridge health care systems and a bilateral corporatist industrial system. Anglo-Saxon welfare states (the United Kingdom, Australia, Canada, USA and Ireland) differ in health and industrial relations systems. Bismarckian welfare states, with insurance-based health care systems, include many continental European nations and others such as Japan. In terms of industrial relations, countries vary among corporatist (Austria, the Netherlands, Belgium), bilateral (Germany, the Netherlands), and state-centred industrial relations (France). Southern European welfare states have a mixed health care system with state-centred (Portugal, Greece) and bilateral (Spain, Italy).

Table 26. Relations among welfare state and health care systems (adapted from Hämäläinen, 2008)

	Beveridge health care system	**Bismarck health care system**	**Mixed health care System**
Scandinavian welfare state model	Finland		
Bismarckian welfare state model		Germany, Netherlands, France, Poland, Japan	
Anglo-Saxon welfare state model	United Kingdom		Australia, Ireland, Canada, USA
Southern-European welfare state model			Italy

In Table 27, the features of welfare states are combined in relation to different regimes. Ideology, goals, functions, financing, benefit structures, access, provisions, and relation to regimes vary fundamentally. However, the market economy and competition shape each country differently and affects the provisions provided to people. Ideologically, Anglo-Saxon countries provide residual services, Nordic countries provide redistributive services, and Mediterranean countries provide rudimentary services (e.g. OH services).

Table 27. Features of welfare regimes and OHS (Hämäläinen, 2008)

Geographical and historical reference	Anglo-Saxon welfare state; Beveridge health care system	Continental welfare state; Bismark health care system	Nordic welfare state; Beveridge health care system	Mediterranean welfare state; Mixed health care system
Ideology	Residual Liberal Residual	Industrial-achievement Conservative-corporatist Institutional	Institutional-redistributive Social-democratic Modern	Semi-institutionalised Rudimentary Corporatist
Goals of Social policy	poverty and unemployment alleviation, individual choice, market	workers' income maintenance, occupation-related benefits and services	equality, an income for all, egalitarian distribution, network public services, state dominated	family- and church-based welfare producers and supporters, resource mixing
Functioning principles of social policy	selectivity	contributions	universality	universality and contributions
Technique of defining provisions of social services	targeting	social insurance	redistribution	mixed/decentralised
Methods of financing social services	payroll contributions	payroll contributions	taxation and user charges	payroll contributions and user charges combined
Benefit structure; compensations of OHS	means tested, flat rate; employer	contribution and earnings related; employer	flat rate; employer and national social insurance	contribution and earnings related; employer
Access to welfare services; OHS	need; work-related benefit	work-related benefit	citizenship, residence- and work-related benefit	work-related benefit
Provision of OHS	employment-related; employers contribute to OHS units	employment related; employers contribute to insurance funds or OHS units	employment related; employers pay for social insurance and some compensation by insurance/ taxation	employment related; employers pay for insurance funds or use public services provided by taxation
Industrial relations as control mechanism	bilateral, corporatist	corporatist, bilateral, state-centred	corporatist, bilateral	bilateral, state-centred
Labour market	deregulation	insiders/outsiders; large number of part-time workers	high public employment	large informal economy; large number of SMEs
Gender	female polarisation	part-time feminisation	occupations feminised	ambivalent familialism; late female mobilisation

Based on this categorisation, the following countries were selected for the comparative case study analysis: stage one, the United States of America, Canada, France, Poland, Ireland, and Italy; and stage two, the Netherlands, Australia, Finland, Germany, Japan and the United Kingdom. This selection of case studies was carried out in active consultation with the joint Work and Health Unit (DWP & DHSC).

Case study thematic framework

A case study thematic framework was developed to support the extraction of information across case studies, and to support a standardised presentation of information and subsequently comparative data analysis. The developed case study

thematic framework was directly informed by the project's stated *a priori* issues, as detailed previously, and the results of the narrative-style review. The aim of this framework was to extract and index 'chunks' of information, allowing for subsequent retrieval and exploration of data.

Due to the proposed two-stage process of this project, we have developed two proposed thematic frameworks to guide the indexing, charting and mapping of examined data at each stage of the process. See Appendix D for thematic frameworks. The initial thematic frameworks were reviewed by the Department for Work and Pension prior to use.

Data Collection Phase

Sources of information were reviewed for each specified national context in line with the thematic framework. Relevant information was indexed and summarised using the thematic framework. Both the grey and academic literatures were examined. It is important to note only information published in English could be extracted due to the language capabilities of the research team. This process yielded a collection of both short and extended case studies. Each drafted case study was independently reviewed, and required revisions made. During this time comparative data analysis tables were developed. They were used to complete the content analysis of the case studies, and to support the data charting and mapping process during the analysis phase of the project.

Data Analysis Phase

Once the thematic frameworks were applied to the developed case studies, the process of data indexing was completed. The process of '*charting*' involves 'lifting' the index data from their original context and representing such information in the developed thematic framework. This process was supported by using the developed comparative data analysis table. This process was conducted for both summary and evaluative level case studies. The charting process involves abstraction and synthesis of the index data. Content analysis (White & Marsh, 2006) was used to identify and explore key themes across case studies.

Annex C – Summary of NESTA Standards of Evidence

Evidence identified and reviewed in relation to the performance of the reviewed OH systems was assessed using the NESTA Standards of Evidence (Puttick & Ludlow, 2013). See method section of the report for more details.

Level of Evidence	Summary	How evidence is generated
Level 1	An account of impact can be provided. A set of reasons can be provided for why the intervention could have an impact, and why that would be an improvement on the current situation.	Use of existing data and research from other sources.
Level 2	Data is generated that show some change among those receiving or using your intervention.	Data can begin to show effect but it will not evidence direct causality. Examples: pre and post survey evaluation; cohort/ panel study; regular interval surveying.
Level 3	A demonstration of the impact of the intervention by showing less impact among those who don't receive it.	The use of a robust method using a control group (or another well justified method) that begins to isolate the impact of the intervention. The use of randomisation of participants strengthens the evidence at this level, and a sufficiently large sample.
Level 4	An explanation of why and how your intervention is having an impact. An independent evaluation validates the impact. The intervention can be delivered at a reasonable cost and could be replicated and purchased in multiple locations.	Robust independent evaluation that investigates and validates the nature of the impact. A documented standardisation of delivery and process.
Level 5	Demonstration that your intervention could be operated by someone else, somewhere else and scaled up, while continuing to have positive direct impact on the outcome and remaining financially viable proposition.	Use of methods like multiple replication evaluations, such as future scenario analysis and fidelity evaluation.

Annex D – Data Extraction Template

The following are the two thematic templates used to extract and summarise information from the case studies. One thematic template was used for the shorter, summary-level case study collection. The second was used for the extended, evaluative-level case study collection.

Thematic template: Summary-level case study

A summary of country information on population, economy and labour market, with a focus on context on the health of the (working age) population and the sickness absence rate, how the sickness benefit system works, and national-level indicators/ statistics (occupational accidents and diseases, sickness absence, disability and workforce participation, benefits claimants).

Legal & policy context

Summary of the social security system, health care system and occupational safety and health system. To answer the following questions:

- What are the relevant OH policies and procedures in this national context?
- How is OH quality maintained and/or improved? To what degree is there regulatory or enforcement activity? Add reflections on any professional standards/OH workforce issues which are wider than regulatory activity.
- How do these sit within the wider system of industrial relations (social dialogue – worker participation)?
- How do these sit within the country's health system (to what extent is OH covered by the primary health care system)?

Organisation, delivery, and coverage

Summary of prevention and compensation approaches to work-related health problems, with details on how the OH provision to the working-age population in employment is organised and delivered in this country (including a commentary on what is legislated for and actually provided – link with the previous section). To answer the following questions:

- How do relevant national policies (including employment protection law) affect population OH coverage?
- How are OH provisions organised and provisioned at the national-level?
- What channels are this system delivered through?
- Who are the key actors in the delivery of this system? What are their roles and responsibilities?

- What is the role of the employers?
- Which professions provide OH services, what services do they provide and what are their levels of accreditation? Are there accreditation standards?
- Who is covered by this system?
- Who financially contributes to the provision of the system?
- Are there financial incentives for employers?
- Are there model services? If so, what are they?

Performance outcomes

Association with national-level indicators of employment, unemployment, disability and both short and long-term sickness absence. Use NESTA standards of evidence where available

- Other key performance indicators within the national context
- Outline any observed changes in indictors over time.

Key features or areas of innovation

Summary of key features of OH system.

- [insert text]
- [insert text]
- [insert text]

Further reading (2-3 key sources of information)

- [insert text]
- [insert text]
- [insert text]

References

Thematic template for extended, evaluative case studies

Historical and current national context

A summary of country information on population, economy and labour market, with a focus on context on the health of the (working age) population and the sickness absence rate, how the sickness benefit system works, and national-level indicators/ statistics (occupational accidents and diseases, sickness absence, disability and workforce participation, benefits claimants). In addition:

- What is the historical background to this system?
- Have there been any system-level reforms recently? If so, what were they?
- What wider socio-economic factors might affect OH population coverage and minimum quality standards?

Legal & policy context

Summary of the social security system, health care system and occupational safety and health system. To answer the following questions:

- What are the relevant OH policies and procedures in this national context?
- How is OH quality maintained and/or improved? To what degree is there regulatory or enforcement activity? Add reflections on any professional standards/OH workforce issues which are wider than regulatory activity.
- How do these sit within the wider system of industrial relations (social dialogue – worker participation)?
- How do these sit within the country's health system (to what extent is OH covered by the primary health care system)?
- How effective are the relevant OH policies in this national context?
- How effectively is OH quality maintained within this national context? Are there any gaps in policy or practice, which may impact the effectiveness of the system?

Employer-led Occupational Health

Summary of prevention and compensation approaches to work-related health problems, with details on how the OH provision to the working-age population in employment is organised and delivered in this country (including a commentary on what is legislated for and actually provided – link with the previous section). To answer the following questions:

- How do relevant national policies (including employment protection law) affect population OH coverage?
- How are OH provisions organised and provisioned at the national-level?
- What channels are this system delivered through?

- Who are the key actors in the delivery of this system? What are their roles and responsibilities?
- Which professions provide OH services, what services do they provide and what are their levels of accreditation? Are there accreditation standards?
- Who is covered by this system?
- Who financially contributes to the provision of the system?
- Are there financial incentives for employers?
- Are there model services? If so, what are they?
- What are the roles and responsibilities of employers?
- What strategies, if any, have been employed to increase employers' use of OH services for their employees (incl. the use of financial incentives or mandating)?
- Is there national-level approach/ strategy to encourage employers to go beyond minimum standards of care? If so, how is this done? Has it been effective?
- Are there any unique provisions or supports for SMEs?

System impact and evaluation (to follow stage 1 section on performance outcomes)

Based on NESTA standards of evidence see Annex C):

- Summary of key sources of evidence on the performance of the system in terms of three key domains:
  - maintaining workforce capacity (i.e. workforce participation rates, long-term sickness absence and disability) and at the national level;
  - adequate quality of care and access to/ supply of OH provisions;
  - and maximising OH coverage.
- If evidence is available, critique and summarise evidence examining the underpinning mechanisms that facilitated such observed successes in systems (or, conversely, failures).
- Summary of key sources of evidence detailing the observed success (or, indeed failure) in encouraging employers to go beyond minimum standards of OH care.
- If evidence is available, what were the mechanisms or processes that facilitated this observed success or indeed failure?

Lessons learned

- Evidence of identified gaps in practice, policy or provision at the national-level.
- Summary of any future initiatives at the policy-level within this national context regarding OH system reform or model of OH provisions.
- If there have been recent reforms in the OH systems or services, why was this done? How was this accomplished? And, if evidence is available, are they any lessons learned from this process?