COMPARISON OF OCCUPATIONAL MEDICINE PRACTICES
Optimising Occupational Risk Prevention

White Document

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Preface

Observing life at work leads us to two conclusions, which we could condense with a simple thesis: work is beneficial to human beings on, conditions that it is adapted to them.

Ergonomics, risk prevention, and human empathy are the tools for continuous improvement. Occupational Health and Well-being Services are the tools for promotion, measurement and adjustment.

However, at the outset of this reflection, we know that humans derive their unique identity from the evolution of their social and cultural environment. This process, individualisation, leads us to reason, in particular, through cultural solutions for improving working conditions. It therefore seems appropriate to try to compare cultural sources to identify their occupational health effects.

Gathering leading key authorities in Occupational Health from diverse countries is an original and fascinating method of consideration, offered to us here by Professor Loïc LEROUGE. The results of this collective, holistic, and international approach offer us original avenues for our efforts to significantly, permanently, and sustainably improve occupational health, regardless of country or culture, in order to foster an ever more fulfilling work life.

Philippe FRANCOIS
President of the Occupational Health Service of Corrèze-Dordogne, France

Tourism expert with United Nations Organization, European Commission, France Government, … - author, speaker, president of a business school - Honorary President of the World Organisation of Hotel Schools - Global Ambassador for Peace through Tourism

Rationale and objectives

This white book is the outcome of the international symposium on *Comparison Of Occupational Medicine Practices: Optimising Occupational Risk Prevention* held in Sarlat on 14 and 15 November 2024, and the product of a collaboration between academics and stakeholders.

The symposium responds to the International Research Chair in Comparative Studies in Occupational Health (CIECST) objective to develop international collaborations and bridges between research and practice on a so important theme which is health at work. Indeed, the role of occupational medicine is to protect workers' health. Protecting it means also to protect population health. Occupational health is a key determinant of public health.

However, depending on the country, its scope is likely to vary in terms of physical and mental health at work, but also in terms of skills and cooperation (whether or not there is an occupational health service, whether or not there is collaboration with other disciplines and/or other players, etc.). The aim of this event was to bring together in one place occupational physicians from different countries to discuss different practices in this area. The guiding principle is to learn from each other's practices and jointly develop new perspectives for the future of occupational medicine. A comparison of legislation, missions and results in terms of key health indicators should enable a shared reflection in terms of evidence-based proposals to jointly explore new perspectives for the development of this discipline.

The interchanges during this symposium may serve as the start of an international network of occupational health physicians who want to exchange ideas on important topics in occupational health ~~today~~, aimed at improving their approach, their practice and/or their national occupational health system. Countries for the symposium exchanges were chosen in order to provide examples from North America, Africa, Asia, and from Northern, Southern, Eastern and Western Europe ~~countries~~. Many thanks to the occupational health physicians who came from so far to represent their national system in occupational medicine and national societies of occupational health:

- Dr Susan STOCK, Canada;
- Dr Tomohisa NAGATA, Japan;
- Dr H. Dahlia MOSSORO-KPINDE, Centre Afrique;
- Dr Lanre OGUNYEMO, United Kingdom;
- Dr Jarand HINDENES, Norway;
- Dr Philippe FARR, Belgium;
- Dr Jorge BARROSO DIAS, Portugal;
- Pr Fabriziomaria GOBBA, Italy;
- Dr Marcin RYBACKI, Poland;
- Dr Martina ELEZ, Croatia;
- Pr Sophie QUINTON FANTONI, France.

Each of the occupational medicine participants, as a representative of their national occupational medicine systems, was asked to answer various questions in order to compare their approaches and practices. These questions structured the symposium and this white book. The participants were questioned about their systems' practices with regard to:

1. the structure of occupational health services in their jurisdiction and the role of the players involved;
2. Prevention of fatal accidents;
3. Lifelong health (wear and tear/MSD, cancer);
4. Consideration of mental health in the workplace in relation to workplace psychosocial risk factors;
5. Digital transition challenges;
6. Taking climate change into account.

Each participant provided an overview of the different systems regarding these subjects, followed by a discussion with comments and questions from the rest of the participants of the symposium

- Philippe FRANÇOIS, President of SPST 19-24;
- Laurent EECKE, Director General of SPST 19-24;
- Dr Fabrice MICHIELS, occupational physician, SPST 19-24;
- Dr Jean-Marie MILLELIRI, occupational physician, SPST 19-24;
- Sophie SELUSI, University of Montpellier, Montpellier Social Law School, Research Chair on Occupational Risks Prevention;
- Pierre LAMBERT, Ingénieur-Conseil adjoint, CARSAT Aquitaine;
- Loïc LEROUGE, Research Director at the CNRS, COMPTRASEC UMR 5114, CIECST, CNRS-University of Bordeaux;
- Dr Guillaume CHORON, occupational physician, Regional society of occupational medicine on Occitanie;
- Dr Candice RANCÉ, occupational physician, Regional society of occupational medicine on Occitanie;
- Dr Benoit ATGÉ, occupational physician, Regional society of occupational medicine in Nouvelle-Aquitaine (SMTA);
- Arnaud BARILLET, Regional Agency for improving working conditions of Nouvelle-Aquitaine (ARACT)
- Dr Kiminori ODAGAMI, University of Occupational and Environmental Health, Japan;
- Andriy LYUBCHYK, PhD Candidate, University of Lille

To facilitate the discussion, Chatham House rules were followed to respect anonymity of participants. Participants were free to share the information in this White Documpent, but must not disclose the identity or the affiliation of the speakers or any of the other participants.[1]

[1] https://www.chathamhouse.org/about-us/chatham-house-rule

1. Structure of Occupational Health Services

In order to get a clear understanding of the structure of each jurisdiction's occupational health services, the following questions were asked:

- What is the cost of occupational health?

- How is the occupational health system organised?

- How does occupational health fit in with public health policies?

- How is occupational medicine structured? (What is the role of occupational health physicians? What is the role of other physicians (primary care? Other specialties?) in the OH system?)

- Is there individual monitoring of occupational health?

- How are doctors form health system mobilised? (What is the role of occupational health physicians? What is the role of other physicians (primary care? Other specialties?) in the OH system?) How are any shortages of occupational physicians managed?

- How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, occupational hygienists, ergonomists, psychologists, etc.)?

In order to complete the comparison, 3 additional questions were added:

- Global number of occupational physicians and number per employees?
- Examples of good practices?
- Aging and age of retirement policy (have an impact on workers lifelong health)?
- Does the occupational health system consider the OH of informal workers?

NORWAY

What is the cost of occupational health?	There are no official data, but based on average pricing, the number of employees included and size/type of businesses, a guesstimate for the national cost would be 200-300 million Euros/year
How is the occupational health system organised?	The majority of occupational health (both for private and public companies/businesses) is outsourced to multi-center occupational health services. The requirement for OHS is driven by risk (not size of business). The Labour Inspection Authority defines which groups of businesses that are to be included. Currently this includes approx. 65-75% of the workforce.
How does occupational health fit in with health policies?	Occupational Health is generally split into medical, industrial hygiene, ergonomic and psychosocial/organisational. There are specific recommendations regarding health surveillance, as well as exposure limits and psychosocial support. A lot of the services however is driven by a duty of care principle built on established tradition as set forth by the Labour Inspectorate.
How is occupational medicine structured?	The occupational health services are fully funded by employers. There are 6 Occupational Medicine Specialist Departments (at university hospitals) that will see referred patients (funded by the authorities) The occupational health services are mostly private and profit-driven The cost of the service depends on the company and the service provided. The average is around 150-200 € per employee per year. Specific regulations on how OSH should operate and which services should be provided as a priority according to the agreement signed the company and the occupational health service. Advisory service in the sense that the occupational health service is responsible for providing good advice to clients and, in the event of a problem, it is up to the client employer to assert their responsibility before the authorities. Intercompany occupational health services (91 services including 3 to 4 main ones with more or less national coverage) or inside companies. 70% of workers are covered. Occupational services have to be approved by the State (Labour Inspectorate) Minimum of 3 people per service with a multidisciplinary approach. No extra-professional prevention activities.
Is there individual monitoring of occupational health?	Occupational medicine only for specific risks and individual monitoring only for the most exposed, feedback to the employer in the form of collective indicators.
How are doctors from? health system mobilised? How are any shortages of occupational physicians managed?	The occupational physician may testify in court on behalf of the employee or the employer.
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Link with the inspectorate in difficult collective situations and link with general practitioners.
Global number of occupational physicians and number per employees	Approximately 200 occupational physicians. It is not the preferred specialty of doctors, who are more interested in treating sick patients and saving lives.
Examples of good practices	
Aging and age of retirement policy (has an impact on lifelong health policy)	
Consideration of informal workers	

CROATIA

What is the cost of occupational health?	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden. The majority of examination costs are typically covered by the Croatian Health Insurance Fund (HZZO) when they provide occupational medicine services. Employers in Croatia are legally required to have occupational safety measures (safety at work), risk assessments, and more. There are fines for non-compliance: e.g., not doing risk assessments properly can lead to monetary penalties. For many employers, occupational health examinations are relatively affordable (when working with contracted occupational medicine clinics) because HZZO covers a large portion of the cost. However, the total cost of occupational illnesses and injuries (for the economy) is very significant — hundreds of millions of kunas per year (at least as measured in 2015).
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How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden.

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How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden. The majority of examination costs are typically covered by the Croatian Health Insurance Fund (HZZO) when they provide occupational medicine services. Employers in Croatia are legally required to have occupational safety measures (safety at work), risk assessments, and more. There are fines for non-compliance: e.g., not doing risk assessments properly can lead to monetary penalties. For many employers, occupational health examinations are relatively affordable (when working with contracted occupational medicine clinics) because HZZO covers a large portion of the cost. However, the total cost of occupational illnesses and injuries (for the economy) is very significant — hundreds of millions of kunas per year (at least as measured in 2015).
Global number of occupational physicians and number per employees	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden. The majority of examination costs are typically covered by the Croatian Health Insurance Fund (HZZO) when they provide occupational medicine services. Employers in Croatia are legally required to have occupational safety measures (safety at work), risk assessments, and more. There are fines for non-compliance: e.g., not doing risk assessments properly can lead to monetary penalties. For many employers, occupational health examinations are relatively affordable (when working with contracted occupational medicine clinics) because HZZO covers a large portion of the cost. However, the total cost of occupational illnesses and injuries (for the economy) is very significant — hundreds of millions of kunas per year (at least as measured in 2015).
Exemples of good practices	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses.

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Aging and age of retirement policy (has an impact on lifelong health policy)	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden. The majority of examination costs are typically covered by the Croatian Health Insurance Fund (HZZO) when they provide occupational medicine services. Employers in Croatia are legally required to have occupational safety measures (safety at work), risk assessments, and more. There are fines for non-compliance: e.g., not doing risk assessments properly can lead to monetary penalties. For many employers, occupational health examinations are relatively affordable (when working with contracted occupational medicine clinics) because HZZO covers a large portion of the cost. However, the total cost of occupational illnesses and injuries (for the economy) is very significant — hundreds of millions of kunas per year (at least as measured in 2015).
Consideration of informal workers	In 2015 employers in Croatia paid HRK 604.6 million for medical expenses, sick leave, legal costs, etc., related to occupational injuries and illnesses. On top of that, employers incurred HRK 300 million in "compliance costs" (costs of meeting occupational safety regulations). Total estimated cost from that study: HRK 904.6 million in 2015 for occupational health + safety burden. The majority of examination costs are typically covered by the Croatian Health Insurance Fund (HZZO) when they provide occupational medicine services. Employers in Croatia are legally required to have occupational safety measures (safety at work), risk assessments, and more. There are fines for non-compliance: e.g., not doing risk assessments properly can lead to monetary penalties. For many employers, occupational health examinations are relatively affordable (when working with contracted occupational medicine clinics) because HZZO covers a large portion of the cost. However, the total cost of occupational illnesses and injuries (for the economy) is very significant — hundreds of millions of kunas per year (at least as measured in 2015).

POLAND

What is the cost of occupational health?	There is no official data
How is the occupational health system organised?	System similar to Slovenia and Bulgaria From a legal point of view, the main stakeholders for health and safety at work in Poland are: Ministry of Labour and Social Affairs responsible for issues related to occupational safety and hygiene (including the transposition of the majority of the EU OSH directives). The Ministry of Health responsible for issues related to occupational health (medicine) and the monitoring of the occupational medicine service. The State Labour Inspection plays a significant surveillance role by checking whether or not the employers fulfil their OSH obligations. The Inspection also conducts awareness-raising campaigns on OSH. According to the Polish legislation, every employment must be preceded by the performance of a compulsory medical examination. Following such an examination, a certified physician issues a certificate, which states whether or not there are any contraindications for one to perform work at a particular post. This rule applies to all workers and workplaces, irrespective of the working conditions. The costs of medical examinations are borne by the employers. There are approx. 6000 physicians entitled to perform employees' periodical health screening in Poland. Only 48,4% of them are physicians specialized in occupational medicine. Some of them work in joined occupational medicine services and some of them as self-employed occupational medicine physicians. They can also work in an in-house company service.
How does occupational health fit in with public health policies?	OHS units has high but not fully exploited potential for efficient prophylaxis of both directly occupational work-related and indirectly work-exacerbated diseases. Health check-ups and other tasks of OHS may be a starting point for health promotion and prophylaxis
How is occupational medicine structured?	The staff of the occupational health service consists of doctors, nurses, psychologists and other specialists with relevant qualifications who are responsible for carrying out multidisciplinary tasks. The Service consists of healthcare providers, including provincial occupational medicine centres, research and development units, and medical universities. Occupational Medicine practitioners act independently of employers, workers and their representatives to ensure objectivity and impartiality. Each voivodship in Poland has a Regional Occupational Medicine Centre, serving as a local central institution for occupational health services. These centres offer various services, including consultations, inspections, postgraduate training, diagnostic activities for occupational diseases, and cooperation in prevention and health promotion initiatives. They also provide expertise and guidance on organisational and operational aspects of occupational health care. Furthermore, these centres maintain records, conduct examinations, and issue medical certificates as per separate regulations. Nofer Institute of Occupational Medicine (NIOM; Instytut Medycyny Pracy im. prof. dra med. Jerzego Nofera) is the leading Institute in occupational and environmental health in Poland. NIOM serves as a secondary level of occupational disease diagnostics and is a referral centre for health check-ups conducted at Regional Occupational Medicine Centres.
Is there individual monitoring of occupational health?	According to Polish law, all employees (employed under an employment contract) are subject to occupational medicine. Self-employed people (or B2B) are not obligatory included into the system, but they can take advantage of the system at their own request and cost.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	OM physicians are no particularly involved in national health care system., as their activities are financed by employer funds. The exception is the adjudication of occupational diseases, where OM physicians employed at provincial occupational health centers are responsible for diagnosing occupational diseases. This activity is financed from public funds.
How are tasks shared between the various players of the system (occupational physicians, occupational nurses,	It is very difficult to answer this question as OM physicians play the dominant role. It's up to the company whether they decide on some training/lectures or other activities performed by ergonomics or psychologists. The occupational medicine service is not involved in the risk assessment which is handled by the HSE engineer.

general practitioner, practitioners as ergonomics and psychologists)??	
Global number of occupational physicians and number per employees	Year 2022 – 5984 physicians who are authorized to perform preventive examinations of employees Year 2022 - 5 449 313 health check-ups Year 2022 - 12 057 600 employees Physician/number of employees ratio – 1/2000
Examples of good practices	**Amiantus Programme** (since the year 2000) - All the former workers of the 28 Polish asbestos-processing plants are entitled to periodic medical examinations and complimentary medications designed to treat asbestos-related diseases. This programme is coordinated by Nofer Institute of Occupational Medicine. Under the Amiantus Programme, over the years 2000-2021, 8,379 people (including 63% men) underwent prophylactic examinations that have been collected in a database. 2237 subjects (26,7%) were diagnosed with an occupational diseases; 1893 patients had asbestosis, 124 lung cancer and 77 mesothelioma. **National Health Programme -** Occupational health has been included into National Health Programme since 2017, that is one of crucial founded by Ministry of Health's activities in the area of public health. Tasks aimed at supporting employees health by supporting different areas and professionals involved in health and safety at work.
Aging and age of retirement policy (has an impact on lifelong health policy)	According to "Ordinance of the Minister of Health dated November 12, 2020 concerning the conducting of medical examinations of employees, the scope of preventive health care for employees, and medical certificates issued for purposes provided for in the Labour Code", occupational medicine physician is obliged to follow recommendations issued by scientific institutes in the field of occupational medicine. Nofer Institute of Occupational Medicine (NIOM) as the only institute in the area of occupational medicine defines recommendations and standards for occupational health care in Poland. One of them are recommendations on dealing with older workers.
Consideration of informal workers	It has never been discussed.

PORTUGAL

What is the cost of occupational health?	There is no official statistical publication from the INE (National Institute of Statistics) that provides isolated costs/investment in Occupational Health and Safety services (whether in the private or public sector). According to current legislation, all employers in the private or public sector have a duty to implement Occupational Health and Safety services (according to the modalities internal, external or common/shared services). However, in Portugal, the public sector has not yet fully implemented Occupational Health and Safety services available to civil servants, so it is a sector where expansion is expected.
How is the occupational health system organised?	In Portugal, the occupational health and Safety system is a structured set of legal obligations, organizations, services and programmes designed to protect and promote workers' health in the workplace, integrated into the broader framework of workplace safety and labour law. It involves employers, State authorities, external service providers and health professionals working together to prevent occupational risks, monitor workers' health, and improve working environments. 1 - **Legal and Policy Framework** **1.1 - Primary legal basis -** Occupational health and safety (OHS) services are regulated under Portuguese law (notably Law no. 102/2009, as amended), which obliges employers to organise and provide for workplace safety and health services and measures. [https://diariodarepublica.pt/dr/legislacao-consolidada/lei/2009-56365341] **1.2 - National programmes -** The National Occupational Health Program (PNSOC) — led by the Directorate-General of Health (DGS) — provides strategic guidance, concepts, and best practices to promote occupational health across all sectors. It emphasizes prevention, health surveillance, and healthy workplaces. [https://www.dgs.pt/saude-ocupacional/programa-nacional4.aspx] **1.3 - Employer responsibility -** Employers must define and implement a Health and Safety at Work Policy — documenting commitment to worker health, risk prevention and organizational responsibilities — and periodically update it. **2 - Occupational Health and Safety Services - According to Portuguese legislation, occupational health and safety services can be implemented in various ways, based on the employer's needs:** **2.1 - Internal Services -** These are internal occupational health and safety services provided directly by the employer to its own employees. Companies with more than 400 employees or with high-risk activities must have internal services (however, they may request official authorization for the implementation of external services). **2.2 - External Services -** Employers without internal capacity may contract external occupational health and safety service providers (e.g., specialised clinics/companies approved by authorities) to fulfil legal obligations. **2.3 - Common Services -** Shared OHS services between several companies/organizations or workplaces. **3 - Activities of OHS services** Law no. 102/2009 (as amended) corresponds, in its genesis, to the transposition of the European directive on the activities of Occupational health and safety (OHS) services and corresponds to the general objectives and good practices of Occupational Medicine and Occupational Health adopted in Europe (namely by the Occupational Medicine Section of UEMS). These activities must be developed in multidisciplinary Occupational Health teams (occupational physicians, occupational nurses and other health professionals) in direct articulation with the Safety services (assessment of occupational risks, control of risk factors; prevention of work accidents and occupational diseases) as well as joint visits to workplaces. 3.1 - Collective interventions Joint or separate strategies, of the OHS services and Safety services, for the promotion of health and prevention of work accidents, occupational diseases, and work-related illnesses, particularly those related to psychosocial factors: (1) Annual planning of prevention activities; (2) Collaborate in evacuation drills; (3) Awareness campaigns and training of workers on occupational health and safety issues (prevention of work-related musculoskeletal injuries, appropriate use of personal protective equipment, compliance with

safety recommendations); (4) Promotion of general and specific health (sleep hygiene, nutrition, obesity control, prevention of smoking, alcoholism and drug use); (5) whenever possible, promotion of anti-sedentary physical activities, well-being and happiness in companies; etc.
It should be noted that these multidisciplinary collective OHS intervention activities depend on the collaboration of Human Resources Management Departments, the size of the companies, and the resources available to OHS services.
In small organizations with limited resources, the full implementation of these activities is difficult, requiring the use of more limited means, but which can improve workers' information and literacy in the most transversal aspects, with a view to fostering a conducive occupational health and safety culture (and also to making individual interventions more effective).

3.2 - Individual Interventions: [see 3.2.3]

Law no. 102/2009 (as amended) determines the typology of consultation/ Occupational Medicine Examinations (Pre-employment, Periodic and Occasional Examinations).

3.2.1 – Health Surveillance - (1) individual health surveillance with a (2) health examination protocol appropriate to the Occupational Risks of each Professional Category/activity/function and tasks (especially in Pre-employment Examinations and Periodic Examinations); (3) specific vaccination; (4) Health Promotion and other specific individual interventions; (5) identification of frail health conditions in the case of pregnant women, Occupational Diseases or other vulnerable health conditions; (6) return to work after illness or accident; (7) Occasional examinations at the request of the worker or employer; (8) change of activity or workplace;

3.2.2 – Fitness for Work Certificate (FAT)

All individual clinical activity in Occupational Medicine has as its fundamental objective the determination of Fitness for Work (the core activity of the Occupational Medicine assessment) with the issuance of the "Fitness for Work Form" (FAT) for each Occupational Medicine consultation/examination.
In this official form, Occupational Medicine fulfils its mission of (1) adapting the work to the worker (to protect their health or prevent the worsening of their health condition) and (2) indicating a "Result of the Fitness for Work Assessment (FIT / CONDITIONALLY FIT / TEMPORARILY UNFIT / PERMANENTLY UNFIT), specifying the (3) applicable recommendations (namely task restrictions or conditions that the employer and the worker must respect).
After the issuance of the "Fitness for Work Form" (FAT), both the employee and the employer's Human Resources managers must sign this document (as confirmation that they have been made aware of the Occupational Medicine determinations).

[https://files.diariodarepublica.pt/1s/2015/03/04800/0149801500.pdf]

3.2.3 – Frequency of Occupational Medicine Examinations

3.2.3.1 - Admission/ Pre-employment examinations – preferably before the start of the Activity, or up to 15 days after admission;

3.2.3.2 - Periodic Examinations:

Annual: (1) for workers with high-risk activities and (2) after age 50 for any activity; (3) with night shifts; (4) workers aged between 16 (minimum age) and 18 years;

Every 2 years: other workers under 50 years of age and without high-risk activity;

3.2.3.3 - Occasional Examinations – (1) mandatory upon return to work after 30 days of absolute incapacity due to (2) accident or illness; (3) at the employee's request; (4) at the employer's request; (5) for change of position/activity; etc.

3.3 – OHS Resources are Determined Based on the Number of Company Employees

3.3.1 – Occupational Medicine

The number of monthly activity hours of Occupational Physicians is determined by the number of employees in the company:

- In high-risk companies and activities: 1 hour of Occupational Medicine per month for every 10 workers;
- In companies and activities without high risk: 1 hour of Occupational Medicine per month for every 20 employees;

3**.3.1 – Occupational Nursing**

In companies with more than 250 employees, occupational nursing must be included, with the number of monthly hours equivalent to those of Occupational Medicine.

How does occupational health fit in with public health policies?	**4 – Annex D - Annual Report on Occupational Health and Safety Services** Annually, organizations must submit a report ("Single Report") with various data on their activities. This report contains an annex (Annex D) relating to the activities of their Occupational Health and Safety services (whether Internal, External or Common). This detailed report begins with a detailed overview of the composition of their staff (and what their contractual relationship is with the company), but also reports which Health and Safety professionals are responsible for OHS services (names, professional credentials and monthly allocation hours for each). It also reports: (1) the main risk factors and respective specific preventive activities implemented (elimination or control measures; worker training and awareness); (2) worker health surveillance activities (statistics of Occupational Medicine Examinations: Admission, Periodic and Occasional); (3) Occupational Diseases (reported and confirmed); number of work accidents (frequency rate and severity of accidents, days lost due to accidents), etc. [https://download.gep.mtss.gov.pt/SGURI/downloads/MODELO_RU.pdf **5 - Regulatory and Supervisory Bodies** **5.1 - Authority for Working Conditions (ACT) / Ministry of Labour and Social Security)** ACT is the main enforcement and supervisory authority for safety and health at work in Portugal. It ensures compliance with occupational health and safety obligations, including organisation of services. **5.2 - Directorate-General of Health (DGS) / Ministry of Health** The DGS oversees health aspects of occupational health services, sets guidelines, and supports the National Occupational Health Programme. **5.3 - Other professional bodies (e.g., Portuguese Association of Physicians, Portuguese Association of Nurses) regulate qualifications of health practitioners involved in occupational health services.**
How is occupational medicine structured?	**Occupational Health and Safety Services:** [see above no.2] **Internal Services -** Companies with more than 400 employees or with high-risk activities must have internal services (however, they may request official authorization for the implementation of external services). **External Services** - Employers without internal capacity may contract external occupational health and safety service providers **Common Services** - Shared OHS services between several companies/organizations **OHS Resources:** [see above no. 3.3] **Occupational Medicine:** (2) In high-risk companies and activities (1 hour of Occupational Medicine per month for every 10 workers);(2) In companies and activities without high risk (1 hour of Occupational Medicine per month for every 20 employees) **Occupational Nursing:** In companies with more than 250 employees, occupational nursing must be included, with the number of monthly hours equivalent to those of Occupational Medicine)
Is there individual monitoring of occupational health?	See above **3.2 - Individual Interventions.** Yes, according the portuguese Law no. 102/2009 (as amended) all employees (employed under an employment contract) are subject to occupational medicine.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	**Occupational Medicine Professionals:** - **Occupational Medicine Specialists** – In 2024, there were 1187 Occupational Medicine specialists: 60.4% (717) over 65 years old and 150 in the 61/65 age group. Thus, 73.04% (867) of Occupational Medicine specialists are over 60 years old. - **Occupational physicians provisionally authorized** by the DGS: after completing a postgraduate course in Occupational Medicine, they may request internships and a formal examination by a jury of the National Association of Physicians. They can practice Occupational Medicine under supervision of an Occupational Medicine Specialists for 4 years. After this period, they may lose their provisional authorization if they do not complete the requirements of the Occupational Medicine Specialty Examination.

How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	**Activities of OHS services** [see above no. 3] **OHS Resources**: [see above no. 3.3] Occupational Nursing primarily performs preventive activities, screenings, and complementary diagnostic tests according to protocols by professional category (vision assessment, hearing, electrocardiogram, blood pressure assessment, blood glucose, etc.), alcohol and drug screenings, immunization, awareness campaigns, and worker training, etc. Occupational Physicians conduct joint visits to workplaces in coordination with occupational safety technicians, coordinate teams and clinical activities, and are responsible for monitoring workers' health and issuing the Fitness for Work Certificate (FAT).
Global number of occupational physicians and number per employees	**Occupational Medicine Professionals:** [see above] **- Occupational Medicine Specialists** – In 2024, there were 1187 Occupational Medicine specialists - **Occupational physicians provisionally authorized** by the DGS: unknown data **The working / employed population in Portugal** According to the most recent data from the National Institute of Statistics (INE): **Total Employed:** In the 3rd quarter of 2025, the employed population was estimated at 5,332,100 people, an increase of 3.7% compared to the same period in 2024. **Unemployment Rate:** In December 2025, the unemployment rate was 5.6%, equaling the lowest value of the last two decades. **Public Sector Workers:** The state employed approximately 759,400 workers in September 2025. **Self-Employed:** There are approximately 736,800 self-employed individuals in the country (2024 data), with about 15% of them economically dependent on a single client.
Examples of good practices	**Research projects in occupational health and safety services through partnerships with universities, research centers, and scientific societies** It is common for health researchers to face additional difficulties in studying the working population and accessing workers' clinical information. On the other hand, occupational health and safety services rarely have the resources and funding for workplace research projects (which are essential for gaining knowledge about the health effects of occupational risk factors). As a successful example (among others), the Lisbon City Council service (with a workforce of over 10,000 workers) has managed to integrate its occupational health and safety service and its workers into funded research projects through partnerships with external partners (research centers have access to fieldwork in populations of over 1,000 workers, and occupational health and safety services guarantee anonymized and accurate information that allows for increased knowledge about the workforce population for which they are responsible). These partnerships also result in publications and participation in scientific events in Portugal and international congresses. Examples: **ATOS – Alcohol, Tobacco, Obesity and Sleep [2017; 2022**] Cross-sectional observational study based on OH Indicators that compared different professional behaviors (firemen, cleaners, drivers, police, gardeners, gravediggers, administrative, etc; April 2018 to March 2021; sample n=6,840; men: 58%; 62.3% of the total universe of municipal workers N=10,972). Dependent variables: alcohol consumption (AUDIT), tobacco dependence and motivation for smoking cessation (Fargerstrom and Richmond Test, respectively), drowsiness questionnaire, risk of Sleep Apnea (STOP-Bang) and Obesity (BMI). Associations with professional variables, comorbidities and protective factors (physical exercise) were evaluated. CONCLUSIONS: The results of this study confirmed different risk behaviors among the various professional groups, the relationship with professional factors, and allowing useful predictive indicators for more effective and specific interventions. [https://doi.org/10.1016/j.shaw.2021.12.1167] **MEAOW – Measuring solar ultravioleta radiation in outdoor workers in Lisbon** This study used a prospective observational design during seven consecutive months (April to October 2023) studying personal UV exposure of Asphalthers, Gardeners, Gravediggers, Pavers, and Sanitation Workers. Measurements of personal exposure were conducted using the GENESIS-UV measurement system, and ambient solar UVR data was estimated Jm-2 utilizing a UV-Biometer radiometer.

	DOI: 10.3389/fpubh.2025.1659663 [https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2025.1659663/full]
Aging and age of retirement policy (has an impact on lifelong health policy)	In Portugal, the extension of working life — with the retirement age set at 66 years and 9 months in 2026 and rising to 66 years and 11 months in 2027 — makes Occupational Health Services (OHS) strategic pillars for the sustainability of the health system and the economy. In Portugal, the vast majority of occupational medicine specialists are doctors who have already retired. [See above] **Occupational Medicine Specialists** – In 2024, there were 1187 Occupational Medicine specialists: 60.4% (717) over 65 years old and 150 in the 61/65 age group. Thus, 73.04% (867) of Occupational Medicine specialists are over 60 years old. **The Critical Importance of Occupational Health** With the increase in retirement age, OHSs are moving from a merely reactive role to becoming managers of "lifelong health." Their importance lies in three fundamental areas: **Prevention of Premature Wear and Tear:** Portugal has a high prevalence of chronic diseases from a young age. OHSs are responsible for adapting jobs to prevent pathologies (such as musculoskeletal problems) from forcing premature exits from the labor market due to disability. **Management of Work Capacity / Fitness for Work:** As the workforce ages (with the worker turnover rate falling), companies (with the support of occupational medicine/OHS services) must implement cognitive and physical ergonomics measures to maintain worker productivity without illness until retirement age. **Promoting Active Aging:** According to the Active and Healthy Aging Action Plan (PAEAS) 2023-2026, workplaces should be spaces for promoting health, combating ageism and encouraging healthy lifestyles that prolong autonomy.
Consideration of informal workers	Informal workers (without contracts and without regularization of their employment status) are "invisible" to Occupational Health and Safety services. An unresolved problem! Countries that achieve proper integration of immigrant workers may also have better conditions for reducing informal work, guaranteeing better access to OHS services for these workers. **Regularization of Informal Domestic Workers** A recent positive example in Portugal is the legislative initiatives for the regularization of informal domestic workers. Facilitated mechanisms for the contractual regularization of these workers were created for these specific activities (sometimes with only a few hours per week): promotion of formal contracts (created on online platforms) allowing the necessary registrations with Social Security (and consequent protection in case of illness and unemployment).

ITALY

What is the cost of occupational health?	We have estimates of the societal cost of the inadequate Occupational Health (OH).implementation: work-related injuries and diseases in Italy amount to approximately 4% of GDP, excluding intangible costs (EU-OSHA, 2019; Takala et al., 2014). By contrast, it is very difficult to provide a reliable estimate of the actual cost of Occupational Health. Focusing only on the cost for employers, according to national legislation (mainly the D.Lgs. 81/2008), employers must bear all OH and safety-related expenses. These typically include risk assessment and documentation (DVR and specialised assessments), preventive and protective measures (training, PPE, exposure monitoring, ergonomic and organisational interventions, etc.), including mandatory health surveillance conducted by the appointed Competent Physician (Medico Competente), i.e. a physician specialised in Occupational Medicine. Because of the wide variability across sectors, company size, risk profiles and service arrangements, producing a single reliable national estimate is very difficult, if not virtually impossible. Possibly (probably) this complexity is the main reason why no consolidated national data exist on total OH expenditure in Italy.
How is the occupational health system organised?	In Italy, several laws regulate Occupational Health (OH), but the main legal framework is the Legislative Decree 81/2008. The system is employer-based: each employer must conduct a comprehensive assessment of all occupational risks related to the company's activities and, based on the results, implement appropriate occupational health and safety measures. These include, among others (as, e.g., mandatory worker training, personal and collective protective equipment, exposure monitoring, ergonomic improvements and organisational interventions), the appointment of a Competent Physician (Medico Competente), i.e. a physician specialised in Occupational Medicine, whenever health surveillance is required. In principle, the measures, including health surveillance, involve all the employees of all sectors and occupational activities, public or private, independently from the number of workers (a few exceptions, involving small number of workers exist). According to the Legislative Decree 81/2008, self-employed workers (and employers, including owners of small enterprises directly working in the workplaces) are not subject to mandatory health surveillance. The recognition and compensation of occupational diseases and injuries are the responsibility of the National Institute for Insurance against Accidents at Work (INAIL), which also plays a role, mainly of technical guidance, in prevention activities. The National Health Service, through the Prevention Departments of the Local Health Units, oversees compliance, conducts inspectionsand can provide technical guidance.
How does occupational health fit in with public health policies?	In Italy, occupational health is formally included within the public health policies. The EU Framework Directive is fully transposed into national legislation, mainly through Legislative Decree 81/2008, and work-related risks are addressed with a prevention-oriented approach. Within the National Health Service, the Prevention Departments of all the Local Health Units include Occupational Health Services, mainly responsible for surveillance, inspections, epidemiological monitoring and technical guidance related to the occupational risks, but that also can promote campaigns on healthy lifestyles, smoking cessation, physical activity and cardiovascular prevention in workplaces. Competent Physicians may administer certain vaccinations, such as influenza vaccines and, during the COVID-19 pandemic, also adminstered COVID-19 vaccinations.
How is occupational medicine structured?	In Italy, occupational medicine is mainly structured around the figure of the Competent Physician (Medico Competente), a specialist in Occupational Medicine appointed by the employer whenever health surveillance is required. The Medico Competente is the only professional authorised to perform health surveillance, which frequently take place in the workplace, or also in accredited facilities. In large companies, the Competent Physician may be employed directly, whereas in most cases they work as external consultants. Occupational medicine activities are linked to the employer's obligation to assess occupational risks and implement all appropriate preventive measures. The Competent Physician contributes to prevention by conducting medical surveillance, assessing fitness for work, maintaining individual health records, but also providing advice on evaluation, risk prevention and mangement.

	At system level, occupational medicine is also supported by the National Institute for Insurance against Accidents at Work (INAIL) and by the Occupational Health Services that are part of the Prevention Departments of the Local Health Units, which oversee compliance, conduct inspections, and provide technical guidance (as previously described).
Is there individual monitoring of occupational health?	Yes. In Italy, based on the results of the occupational risk assessment, mandatory health surveillance is required when workers are exposed to specific occupational risks. Health surveillance is carried out exclusively by the Competent Physician (*Medico Competente*), a specialist in Occupational Medicine appointed by the employer. It includes periodic medical examinations (usually annually) and, when necessary, risk-specific tests such as biological monitoring, audiometry, spirometry, and other targeted assessments. Individual health surveillance is also required in cases of prolonged absence from work. Health surveillance concludes with a fitness-for-work judgement for the specific job task The Competent Physician must also maintain an individual health record for each worker and, in case of suspected work-related diseases, is legally required to report them to INAIL and to the Prevention Departments of the Local Health Units.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	According to national legislation, all physicians in Italy—regardless of their role—are required to report suspected occupational diseases and work-related injuries, although this obligation is not always fully complied with. Doctors from the Occupational Health Services of the Prevention Departments (SPSAL) of the Local Health Units are actively involved in workplace surveillance, inspections and evaluation of occupational risks. INAIL also have physicians that are mainly responsible for the recognition, management and compensation of occupational injuries and diseases. In addition, all Italian universities host academic staff in Occupational Medicine, who are mainly involved in research and specialist training. Currently in Italy there is not a recognized significant shortage of Occupational Medicine Specialists
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Risk assessment is a legal obligation of the employer, who fulfils it by appointing a Prevention and Protection Service, which may be internal or external to the company. The Medico Competente is the only professional authorised to perform health surveillance (But, note that all physicians in Italy—regardless of their role—are required to report suspected occupational diseases and work-related injuries). Occasionally, in case of need, others as ergonomists, physiotherapists, psychologists and others, may be involved to provide speficic interventions.
Global number of occupational physicians and number per employees	Current number of physicians who fulfil the legal requirements to serve as Competent Physicians : about 8.400. Number of physicians currently practicing as Competent Physicians : about 5.260. Emplojed population (2025): about 24.000.000 (NB: only part of them are included in health surveillance programmes; lack of official data).
Examples of good practices	**Italy has several examples of good practices in Occupational Health:** • **Specific protections for vulnerable groups,** such as mandatory risk assessment and tailored preventive measures for pregnant and breastfeeding workers and young workers/minors. • **Mandatory assessment and prevention of work-related stress,** as required by national legislation and supported by methodological guidelines from the Ministry of Labour and INAIL. • **Health promotion initiatives carried out by Occupational Health Services and Public Health Departments (SPSAL),** including campaigns on healthy lifestyles, smoking cessation, physical activity and cardiovascular prevention in workplaces. • **Guidelines and technical documents developed by scientific societies such as SIML and AIRM,** which provide evidence-based recommendations for Competent Physicians and support harmonised good practices. • **INAIL prevention programmes, including sector-specific guidance (construction, agriculture, healthcare),** incentives for companies adopting safer technologies, and dissemination of good practices. • **Integration between occupational health and public health,** for example through vaccination campaigns (as influenza) carried out with the involvement of Competent Physicians.

	University-based occupational medicine training and research, contributing to updated practice and the development of validated tools for risk assessment and surveillance.
Aging and age of retirement policy (has an impact on lifelong health policy)	In Italy, the statutory retirement age is gradually increasing and will reach 67 years, with further adjustments expected in line with life expectancy. Early retirement options exist but are increasingly restricted. As a result, the Italian workforce is ageing, and the proportion of workers over 55 is steadily rising. Occupational Medicine plays a central role: the *Medico Competente* performs periodic fitness-for-work assessments as a result of health surveillance visits, evaluates functional limitations, recommends reasonable adjustments, and can contribute to programmes for the prevention and management of chronic conditions in the workplace. Return-to-work assessments after long periods of illness are mandatory and particularly relevant for older workers. However, Italy faces challenges similar to other EU countries, including the rising number of workers on long-term sickness absence and disability benefits. The ageing workforce increases the need for coordinated policies integrating occupational health, public health and social protection to maintain employability and sustainable working lives.
Consideration of informal workers	In Italy, informal workers—including self-employed persons, gig-economy workers, and owners of micro-enterprises—are generally not covered by the employer-based Occupational Health (OH) system defined by Legislative Decree 81/2008. Health surveillance is not required for self-employed workers, and access to structured occupational health services is mostly absent unless they voluntarily join specific sectoral schemes. These workers rely primarily on the National Health Service for clinical care. In recent years, policy discussions have increasingly highlighted the need to strengthen OH interventions for informal and self-employed workers, however, no national system currently provides structured OH services for informal workers.

JAPAN

What is the cost of occupational health?	The costs mainly consist of health checkup expenses and personnel costs for occupational health professionals. All costs are covered by the company.
How is the occupational health system organised?	Ageing of the population. Decrease in the working population. Constant decrease in accident rate since 1972. Awareness of companies and occupational health professionals in companies.
How does occupational health fit in with public health policies?	Public health and occupational health are managed and supervised by the Ministry of Health, Labour and Welfare, Japan.
How is occupational medicine structured?	Health and safety at work law in 1972: companies responsible for checking health of companies depending on size lower than 50 employees no requirement, over 50 part-time doctor, lower than 1000 full-time doctor in-house. Health check-up and Stress check once a year. Follow-up twice a year if specific risk. But 60% of employees in companies with fewer than 50 employees.
Is there individual monitoring of occupational health?	When appointing an occupational physician, companies must file a notification with the Labor Standards Inspection Office.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	The Japan Medical Association has established a certified occupational physician system. By completing 50 hours of training, individuals qualify to be appointed as occupational physicians. Furthermore, after obtaining certification, completing 20 hours of training over a five-year period is a requirement for renewing certified occupational physician status.
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Only occupational physicians are legally obligated to be appointed by companies. In addition to conducting evaluations such as fit-to-work assessments, occupational physicians are responsible for performing many duties. However, many companies also employ occupational health nurses, etc, and it is common practice for occupational health professionals to share responsibilities.
Global number of occupational physicians and number per employees	Approximately 107,000 certified occupational physicians in fiscal year 2022. Japan's workers: 68.73 million as of June 2025.
Examples of good practices	Stress-check program: There are two objectives: first, to improve the workplace environment; second, to provide consultations with physicians or other professionals for individuals experiencing high stress levels. KENKO Investment for Health: "KENKO Investment for Health (KIH)" refers to the strategic management of the health of employees and others from a managerial perspective. Efforts to maintain and improve the health of employees based on management principles of an enterprise will result in revitalization of the organization, greater productivity, and enhanced corporate value. https://kenko-keiei.jp/en/ Health Impact Assessment (HIA).
Aging and age of retirement policy (has an impact on lifelong health policy)	The retirement age has been extended to 65 and is expected to reach 70 in the future. In Japan, where the workforce is shrinking, more companies are highly motivated to create environments where older workers can continue working longer. The risk of workplace accidents/injuries increases with age. Ensuring safety measures for older workers has become a national challenge.
Consideration of informal workers	As work styles diversify, the number of self-employed individuals and gig workers is increasing. Guidelines concerning the health management of these individuals have been issued. https://www.mhlw.go.jp/content/11302000/001257617.pdf (Japanese)

BELGIUM

What is the cost of occupational health?	The cost per worker depends on the risk level of the sector (5 groups) and the number of employees within the company.
How is the occupational health system organised?	Federal system: inspection, Ministry of Labour. Regional level: health officer. Each company must have an external or internal occupational health service (optional occupational health service) comprising a health component (doctor, nurse) and a risk management component (prevention advisor, hygienist, psychologist, occupational therapist).
How does occupational health fit in with public health policies?	The legislator has moved away from the notion of a separation between public health and occupational health. This was based on the fact that the time devoted to health surveillance in the workplace could not be reduced so that the occupational doctor could provide public health advice. However, given the shortage of doctors in Belgium and the fact that many employees do not have a general practitioner on the one hand, and given the need to strengthen links between the prevention sector and the curative sector, particularly in the context of the return to work of long-term sick employees, this separation no longer has any justification.
How is occupational medicine structured?	Billing: flat rate per worker, pro-rated on time spent in the company, ranging from €52 to €142 depending on occupational risks (5 tariff groups). Entitlement to a quota of prevention units, with a surcharge if exceeded. Basic flat rate for small businesses. Unclear legislation on the demarcation of the department's role in risk assessment. Certificate of fitness for work issued at initial and periodic visits. Multi-annual action plan drawn up by companies. Shortage of doctors, including occupational doctors => delegation under the coordination of the occupational doctor. TRIO exchange groups: general practitioner, medical adviser, occupational physician.
Is there individual monitoring of occupational health?	Depending on the risk assessment, employees undergo a periodic health assessment, the frequency of which varies between annually and every five years; if the risk assessment has not concluded that health monitoring is necessary, the employee is still entitled to see the occupational physician as part of a voluntary consultation or a pre-return-to-work visit.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	The occupational physician has a dual role: health assessments and workplace activities. Their schedule is drawn up to enable them to carry out all these tasks, but this is virtually impossible given the shortage of occupational physicians. The shortage affects all medical disciplines. Reform of occupational health surveillance? • Example of the abolition of 'screen-based' health surveillance, but loss of contact with a significant proportion of the working population • Increased role for nurses with specific training in workplace wellbeing § Enabling them to carry out frontline health assessments (without issuing fitness certificates) • Improving the visibility of the occupational physician's role among colleagues and within the general public § Participation in TRIO groups (general practitioners, medical advisers and occupational physicians) § Establishment of information-sharing platforms
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Given the shortage of occupational physicians and the increasing number of tasks entrusted to them in the context of return-to-work issues, a reform of the principles of health surveillance is under consideration by the Higher Council for Prevention and Protection at Work, a body established within the Federal Public Service for Employment. This involves a fundamental shift in the role of occupational nurses, who could take on the frontline role, thereby allowing occupational physicians to focus on more complex cases.
Global number of occupational physicians and number per employees	There are around 800 occupational physicians, with a large number aged over 60 and very few in training.
Examples of good practices	All matters relating to legislation on well-being at work are set out in the Code on Well-being at Work. Each company must draw up an annual action plan in November aimed at promoting well-being at work and must present a follow-up report to the occupational health and safety committees. Burnout is considered a work-related condition, and a monitoring programme for those affected has been set up under the auspices of FEDRIS, the Federal Agency for Occupational Risks. The Federal Public Service for Employment also pays particular attention to the prevention of burnout and mental health risks at work. A specific Royal Decree on workplace ergonomics and the prevention of musculoskeletal disorders, which outlines the importance of addressing new workstations from the design stage and adapting existing workstations.

Aging and age of retirement policy (has an impact on lifelong health policy)	The retirement age is being raised: by 2030, it will be set at 67. In Belgium, there is a huge problem with workers on sick leave (unable to work for over a year), who outnumber the unemployed. It is therefore essential to resolve this issue; as a result of this measure, we can expect an increase in the number of older workers unable to work if adaptation and support measures are not implemented.
Consideration of informal workers	The employee receives a health assessment form following the examination, specifying their fitness for work and, if not, the measures required to adapt their workstation or adjust their working conditions. They have the right to request a copy of their health file, which will then be forwarded to their general practitioner. They must give their consent for the occupational health doctor to contact those who may be involved in the reintegration process or the assessment of permanent incapacity.

UNITED KINDOM

What is the cost of occupational health?	Work-related injury and ill health cost the UK about £21.6 billion annually, with 33.7 million lost working days, forming the core economic case for OH investment. OH service costs vary, but common prices range from £51–£200 per use, with clinical assessments typically £95–£350. Subscription or annual-per-employee models often cost £60–£180 per year. Government analysis suggests employers may need to invest £5–£15 per employee per month for effective workplace health support. Employer-commissioned OH services in the UK are worth in the region of **£0.9 billion to £2 billion per annum**, depending on how broadly one defines the market.
How is the occupational health system organised?	The UK has no universal OH service; access is largely employer-funded through in-house teams, NHS services or private providers. Coverage is uneven—around 45% of workers have OH access, with high uptake in large organisations and low access among small businesses. Health and safety laws mandate certain OH functions, while the NHS has its own strategy for its workforce. Overall, the system operates as a mixed public–private market with variable capacity.
How does occupational health fit in with public health policies?	OH is integrated into national prevention and population-health strategies. Government policy links OH expansion with reducing economic inactivity and modernising sickness-absence systems. In practice, OH contributes to public health through disease prevention, return-to-work support and workplace health promotion.
How is occupational medicine structured?	Occupational medicine is a GMC-recognised speciality entered at ST3, with a four-year training programme defined by the Faculty of Occupational Medicine which sets training standards, examinations and contributes to national OH policy. Occupational physicians work as specialist clinicians advising on the intersection of health and work across NHS, industry, defence and private sectors. Statistics from the general medical council indicated declining numbers of specialists with an 11% drop between 2019 and 2022. There is no legal obligation to have an occupational health service, and OH was excluded from the NHS at inception being seen as a responsibility of employers. There is a legal obligation for employers to comply with health and safety law – Health and Safety at Work Act 1974 which underpins much OH related legislation and is often a driver for employers engaging OH services. Transposition of European directive was into regulations deriving from this Act. Some industrial exposures (e.g. Noise, Asbestos, Lead, Ionising Radiation etc.) have specific legislation aimed at managing the risks accompanying them and others are often captured under more general regulations that mandate an employer to undertake risks assessments and manage such risks. Multidisciplinary teams are common.
Is there individual monitoring of occupational health?	Individual health monitoring occurs through legally required health surveillance for specific workplace risks, and statutory medical surveillance for hazards like asbestos, lead and radiation. Employers must also report certain conditions via RIDDOR. Outcome monitoring, such as sickness absence and retention data, is recommended by NICE. Practically, workers may undergo periodic assessments such as audiometry, spirometry or safety-critical & fitness for work medicals. The level of these varies in industry. There is no universal statutory monitoring of worker health.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	GPs and other NHS clinicians issue fit notes and are encouraged to consider work as a health outcome, advising on adjustments where possible. Policy reforms aim to redistribute assessment tasks and integrate employment support into primary care. Because many workers lack OH access, primary care often manages work-related issues, with referrals to OH occurring mainly through employers or DWP programmes. The UK faces a recognised shortage of specialist occupational physicians, with modelling suggesting significant unmet need. Current strategies include multi-professional OH models, expanding specialist training, and national workforce planning. Policy proposals aim to grow capacity across a wider work-and-health workforce. In practice, shortages are mitigated through greater use of nurses, allied health professionals and external providers. Emerging technologies seemed poised to play a greater part in mitigating the shortage.

How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Occupational physicians handle complex fitness-for-work assessments, statutory medical surveillance and specialist clinical leadership. OH nurses manage routine surveillance, case management and workplace vaccination programmes. GPs diagnose and treat illness, issue fit notes and liaise with OH when needed. Ergonomists, physiotherapists, psychologists and others provide functional, ergonomic and mental-health assessments, forming a multi-disciplinary model of care.
Global number of occupational physicians and number per employees	No reliable contemporary census exists for global or UK occupational physician numbers. Earlier estimates suggested around 850 UK doctors affiliated with the FOM, though not all work full-time in OH. Coverage of the workforce by occupational physicians is incomplete—only around one-third to one-half of workers have OH access. As a result, planning now focuses on overall coverage and multi-professional capacity rather than physician-to-employee ratios.
Examples of good practices	NICE recommends organisational-level interventions such as strong management practices, monitoring absence data and supporting older workers. NHS OH strategies emphasise integrated, multi-professional teams and data-driven improvement. SEQOHS accreditation provides a recognised quality benchmark. Evidence indicates organisational approaches—like job design and psychosocial risk management—are more effective than isolated individual wellbeing initiatives.
Aging and age of retirement policy (has an impact on lifelong health policy)	The UK State Pension age is 66, rising to 67 by 2028 and eventually 68, with no default retirement age. Longer working lives increase the need for flexible work, chronic-disease management and age-aware job design. The emphasis is on tailored support for older workers, including flexible arrangements/adjustments where practicable. OH contributes through fitness assessments, adjustments and supporting phased retirement.
Consideration of informal workers	Informal workers in the UK—mainly self-employed, gig-economy and micro-business workers—often lack access to employer-funded OH. With only around 45–50% overall OH coverage, many such workers rely instead on general healthcare and public work-and-health programmes. Schemes like Access to Work offer targeted support for disabled self-employed individuals. Policy reviews increasingly call for more universal in-work health support for these groups.

CANADA

What is the cost of occupational health?	Varies across the 14 OH jurisdictions. Overall data not readily available.
How is the occupational health system organised?	14 jurisdictions (each of the 10 provinces, 3 territories and the federal government) each have their own occupational health legislation and programs. In some provinces there is a single commission or board that is responsible for prevention and workers' compensation, in others these are separate entities. In Quebec there is a provincial public health network in occupational health in every region of the province that provides OH prevention advice and services to specific employers and workers and includes occupational health physicians, nurses, hygienists, ergonomists, etc. that is under the jurisdiction of both the Ministry of Health & Social Services and the Ministry of Labour. Previously most prevention activities were mandated by OH law to specific designated high priority sectors. Under new Quebec, OH, legislation passed in 2022, employers are now required to carry out OH prevention activities to preserve the physical and psychological integrity of employees in all sectors and no longer only in priority sectors in all sectors and can request assistance from the OH professionals of their region's public health network in occupational health. The role of the OH PH network is evolving. In other Canadian jurisdictions, it is the Ministry of Labour that oversees prevention activities by inspectors and other OH professionals.
How does occupational health fit in with public health policies?	In Quebec Occupational Health is part of Public Health and is under the jurisdiction of both the Ministry of Health & Social Services and the ministry of labour. Each public health region has an OH team with one or more OM physicians. In other Canadian jurisdictions, occupational health is separate from Public Health
How is occupational medicine structured?	In Quebec the provincial public health network in occupational health in every region provides OH prevention advice and services to employers and workers. These OH teams includes occupational health physicians. In the past, larger companies throughout Canada (including in Quebec) tended to have their own OM physicians, but in recent years in-house full-time occupational medicine is rare; some companies hire part-time OM or OH services that mainly focus on assessing fitness to work for new hires or those returning with occupational disorders, assess workers' compensation cases that may be appealed, or assess new cases. A few still do some preventive OM. In some jurisdictions in the country, there are occupational health clinics at universities, or funded through the ministry of labour, or through private companies that assess the work-relatedness of workers' symptoms that primary care physicians can refer patients to. Some of these clinics will also provide OH care and follow up to workers fir their OH problems. There are fewer than 200 OM specialists in Canada certified by the Royal College of Physicians, with 3 speciality residency training programs recognised by the Royal College affiliated with 3 medical schools. There is an alternative occupational medicine accreditation program (Canadian Board of Occupational Medicine) that also offers OM training (not recognised by the Royal College).
Is there individual monitoring of occupational health?	Each jurisdiction mandates their own list of occupational exposures requiring individual monitoring. But there is no system that requires each worker to have an occupational health evaluation for all their work exposures.
How are doctors from health system mobilised? How are any shortages of occupational physicians managed?	There are more occupational physicians in Quebec than elsewhere in Canada but even in Quebec there are not enough to meet the needs of the Pubic Health Network in Occupational Work.
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	This varies enormously from one jurisdiction to another and from the public health network (in Quebec) to private companies providing OH services.

Global number of occupational physicians and number per employees	Great variation across jurisdictions.
Examples of good practices	Quebec has a fairly extensive system for evaluating occupational health risks and protecting pregnant and lactating women if her obstetrical service provider makes a request.
Aging and age of retirement policy (has an impact on lifelong health policy)	Generally, age of retirement is 65 years, but certain industries and individual companies may have different policies (e.g. depending on collective agreements or company practices).
Consideration of informal workers	Considerable variation across jurisdictions for both access to preventive services and for access to workers' compensation of income replacement and assessment and treatment of occupational disorders. Often temporary foreign workers are treated differently that other workers.

CENTRAL AFRICA

What is the cost of occupational health?	Each year, the finance law allocates a budget of 500,000 CFA francs (762 euros) to the Occupational Medicine Directorate for awareness-raising activities on the fight against HIV/AIDS in the workplace.
How is the occupational health system organised?	The occupational health system is pyramid-shaped. - An Occupational Health Department (DMT), which is part of the Social Protection Department, is based at the Ministry of Labour, which intervenes and organises occupational health throughout the Central African Republic. In private companies, there are occupational health services that are under the control of the Occupational Medicine Directorate.
How does occupational health fit in with public health policies?	Again, through the DMT, which participates in the organisation of public health activities relating to occupational health. Occupational medicine in the CAR is still in its infancy. The National Social Security Fund manages occupational risks and maternity benefits.
How is occupational medicine structured?	Occupational medicine mainly concerns the private sector. There is also a Medical Council for the Civil Service for general administration. The National Social Security Fund (under the supervision of the Ministry of Labour) works in collaboration with the Directorate-General for Social Protection
Is there individual monitoring of occupational health?	Yes, through various occupational health visits, which are mandatory or on request.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	It is difficult to mobilise doctors for specialist training in occupational health because such training is not available in Bangui and is expensive. There is no scholarship programme for this speciality.
How are tasks shared between the various players of the system(occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	In CAR, there are only occupational physicians supported by general practitioners or other specialis no occupational health nurses or ergonomics practitioners.
Global number of occupational physicians and number per employees	4 occupational physicians, We have initiated training and capacity-building projects in occupational health and safety, but due to a lack of funding, nothing has been achieved yet.
Examples of good practices	
Aging and age of retirement policy (has an impact on lifelong health policy)	The retirement age for the private sector in CAR is set at 62. In the civil service, this age depends on the socio-professional category.
Consideration of informal workers	The inclusion of workers in the informal sector (by the National Social Security Fund) is underway but not yet effective.

FRANCE

What is the cost of occupational health?	Decree of 12 October 2024 sets the national average cost of occupational health at €115.50 per employee, with a range of €92.40 to €138.60. The 2020 IGAS report states that €1.5 billion is collected annually through employer contributions to fund the SPST (16 million employees). This is a partial estimate
How is the occupational health system organised?	The occupational health system in France is a legal obligation for all employers. It is based on occupational health services. A distinction is made between inter-company services and autonomous services set up by large companies for their own employees. In all cases, the system is entirely funded by employers. These services are made up of multidisciplinary teams (doctors, nurses, ergonomists, psychologists and social workers) and have five main tasks, the primary one being to prevent any work-related health issues, support risk assessment and advise both the employer and the employee on prevention. They also carry out collective initiatives in the workplace, public health promotion activities within companies, the tracking of occupational risks, and health monitoring. Each employee receives individual health monitoring, the frequency of which depends on their state of health and the occupational risks to which they are exposed. The governance of inter-company services involves representatives of employees and employers, and the State, via the Ministry of Labour, ensures compliance with the services' legal obligations and grants a five-year accreditation.
How does occupational health fit in with public health policies?	Since 2021, the occupational health system has been integrated into the Occupational Health Plan, which links occupational health to public prevention policies. Occupational health services contribute to public health objectives as they help to promote public health, engage in primary prevention by reducing occupational risks, screen for conditions, and collect health and exposure data; they also liaise with the National Health Service to prevent people from dropping out of the workforce in the event of health problems. They help to reduce health inequalities by reaching employees directly in the workplace and complement the various health schemes.
How is occupational medicine structured?	Occupational medicine is structured around prevention and occupational health services that are either internal or external to companies, depending on their size, with external services being jointly managed. These services are integrated into national health policy.
Is there individual monitoring of occupational health?	Yes. Several check-ups are mandatory: information and prevention check-ups with a healthcare professional (equivalent to a pre-employment medical), repeated every 3 to 5 years depending on the case. For certain roles (asbestos, lead, ionising radiation, carcinogenic risks, etc.), monitoring is described as 'enhanced', meaning it includes a pre-employment medical fitness assessment, repeated every 4 years, with an interim information and prevention visit at 2 years. For pregnant women, workers with disabilities or young people, there is tailored monitoring. In the event of absence, there are pre-return-to-work examinations during sick leave and a return-to-work examination within 8 days of returning to work. Finally, there is a mid-career check-up at the age of 45 to anticipate the effects of ageing and occupational wear and tear and to adapt working conditions and career paths. Finally, the end-of-career check-up serves to initiate, if necessary, post-occupational health monitoring in the event of exposure to risks with delayed effects, in conjunction with the health insurance scheme.
How are doctors form health system mobilised? How are any shortages of occupational physicians managed?	The law provides for general practitioners to participate in the occupational health system, a measure that is currently ineffective. However, to address the shortage of occupational health doctors, a pathway is provided via training to change professional qualifications. Finally, the delegation of tasks between doctors and nurses is provided for, subject to protocols and provided that the nurses are trained.
How are tasks shared between the various players of the system (occupational physicians, occupational nurses, general practitioner, practitioners as ergonomics and psychologists, etc.)?	Occupational health services consist of multidisciplinary teams whose activities are coordinated by the occupational physician, both for collective preventive measures and for individual health monitoring. The occupational physician does not carry out the clinical care typically entrusted to a general practitioner. Information may be shared between doctors provided the employee consents.
Global number of occupational physicians and number per employees	According to recent data, there were 4,812 occupational physicians in France for 27 million people in employment at the end of 2023. This gives a ratio of one occupational physician for every 5,600 workers, but these figures mask significant regional variation, with some occupational physicians

	responsible for more than 10,000 employees and some regions or occupational groups having no occupational physician at all.
Examples of good practices	Establishment of units to prevent occupational exclusion, which support employees whose health condition is difficult to reconcile with continuing their work, or who are at high risk of becoming unfit for work in the future. A multidisciplinary team (nurses, psychologists, ergonomists, etc.) coordinated by the occupational health doctor to carry out occupational health and safety (OHS) duties.
Aging and age of retirement policy (has an impact on lifelong health policy)	A gradual increase in the retirement age, accompanied by a national health plan and mid-career check-ups to anticipate the effects of occupational wear and tear. The tasks of the occupational health and safety service (SPST) therefore have the capacity to take health into account throughout a person's working life.
Consideration of informal workers	Since 2021, self-employed workers have been able to join the inter-company occupational health and safety service of their choice. "They benefit from a specific range of services relating to occupational risk prevention, individual monitoring and the prevention of disengagement from the workforce. The head of a company that is a member of an inter-company occupational health and safety service can benefit from the range of services offered to employees."

2. Prevention of fatal accidents

This topic is based on the principle that no one wants to die and no one wants to see someone else die. The company is also a place where people are living, and it could explain this. Companies are today just a location designed to make profit; they welcome people, and in this mission of welcoming people, there can be no deaths. However, the French system is struggling to prevent fatal accidents at work, given its poor ranking in this area within the European Union, with the highest total in the EU in 2023.

Eurostat thus provides an overview of workplace accidents (fatal and non-fatal) in the European Union in 2023:

Number of non-fatal and fatal accidents at work, 2023
(people)

	Non-fatal accidents at work involving at least 4 calendar days of absence from work			Fatal accidents at work
	Total (')	Men	Women	Total
EU	2 824 711	1 909 910	913 804	3 298
Belgium	61 139	41 998	19 140	47
Bulgaria	2 197	1 460	737	90
Czechia	35 762	23 604	12 158	78
Denmark	50 246	29 591	20 337	32
Germany	788 576	571 900	216 327	403
Estonia	5 216	3 613	1 603	10
Ireland	21 960	13 901	7 845	39
Greece	4 674	3 211	1 463	37
Spain	481 022	339 844	141 178	355
France	614 561	370 761	243 800	811
Croatia	9 161	5 601	3 555	43
Italy	268 197	194 242	73 955	473
Cyprus	1 314	943	371	14
Latvia	2 217	1 418	799	28
Lithuania	4 875	3 021	1 744	32
Luxembourg	6 435	4 870	1 565	12
Hungary	24 756	15 418	9 338	61
Malta	1 465	1 147	318	5
Netherlands	84 690	47 799	36 891	31
Austria	56 644	43 344	13 300	121
Poland	65 307	39 385	25 922	168
Portugal	125 873	87 100	38 773	136
Romania	3 429	2 320	1 109	146
Slovenia	13 716	9 753	3 963	21
Slovakia	8 027	5 021	3 006	23
Finland	33 148	21 440	11 708	27
Sweden	50 103	27 206	22 897	55
Iceland	1 488	985	503	1
Switzerland	99 421	76 133	23 288	48

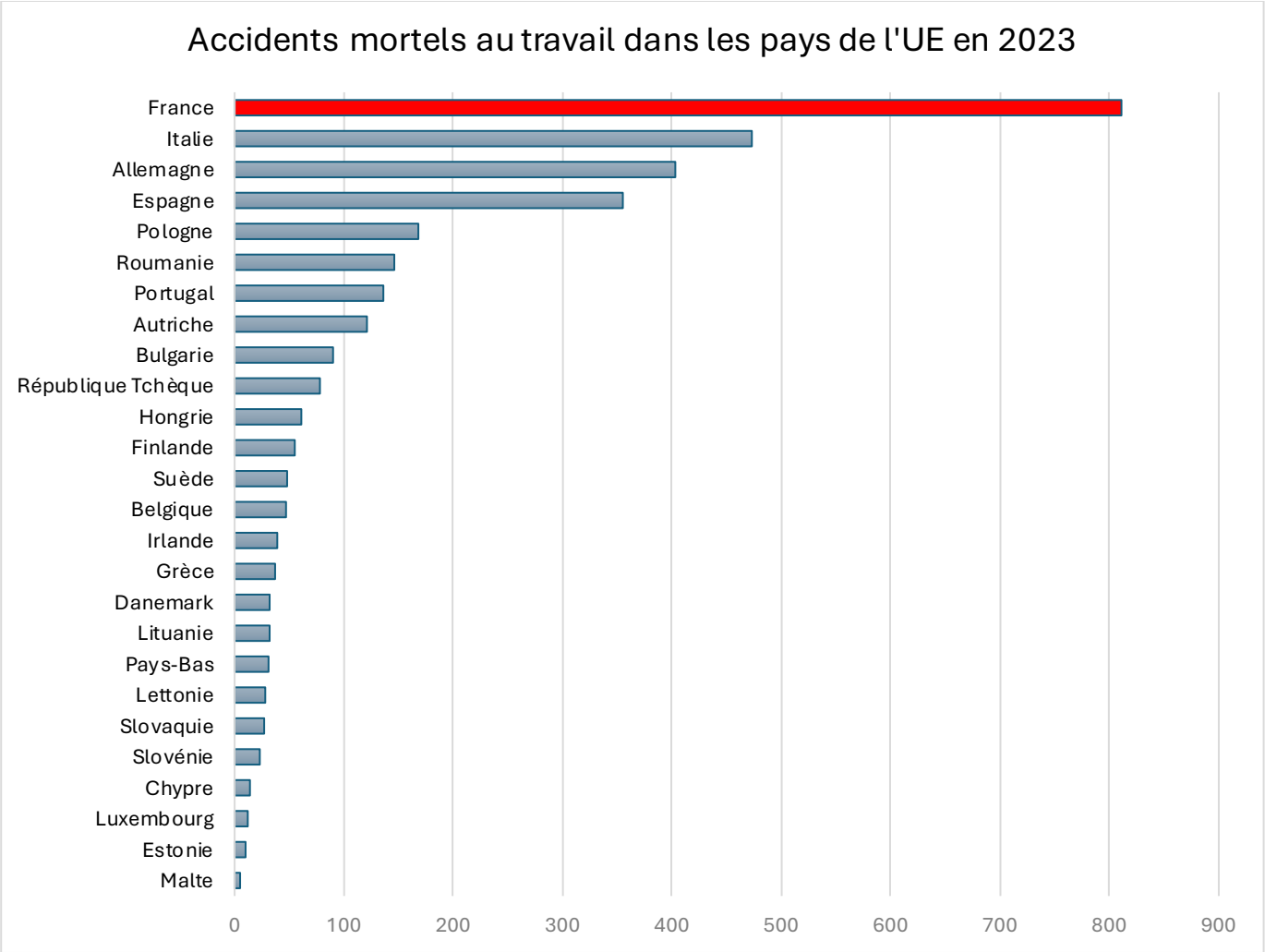
Note: non-fatal accidents reported in the framework of ESAW are accidents that imply at least 4 full calendar days of absence from work (serious accidents).
(') The total includes individuals of unknown sex in addition to men and women. Therefore, the sum of the data for men and women may not equal the total.
Source: Eurostat (online data codes: hsw_n2_01 and hsw_n2_02)

eurostat

Source: Eurostat, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Number_of_non-fatal_and_fatal_accidents_at_work,_2023_(people)_Health2025.png

Eurostat data highlight disparities across the European Union regarding fatal accidents at work. However, counting methods and insurance systems vary from country to country. For example, in France, workplace accidents are recorded from the first day of absence, whereas Eurostat only includes those resulting in at least four days' absence[2]

[2] See DARES (Direction de l'Animation de la recherche, des Études et des Statistiques), *Les accidents du travail, données annuelles nationales*, 23 octobre 2025, https://dares.travail-emploi.gouv.fr/donnees/les-accidents-du-travail?TSPD_101_R0=087dc22938ab20009e9c5ea26db8edc6851ebfc6d8b8270002bdaefb8c497d2d6ec963a457c643e008b2628a06143000460510f4607064562fa3b1e9a20595a7411983af9a5975380b991d154c06a95fbd1445654e895427181ce915fc172604



Nevertheless, the countries represented at this seminar all have lower incidence rates than France, but these results must always be viewed with caution, as calculation or reporting methods may vary from country to country. Looking at the work of occupational health services and occupational medicine practices, it appears that the business manager is responsible for assessing occupational risks. They are responsible for the safety instructions that must be included in the job description or contract. Employers must therefore demonstrate a commitment to a culture of safety within the company. The occupational physician then advises them on how to bridge the gap between theory and practice. This safety culture within the company is based on the occupational physician's analysis of accidents and near misses, and sometimes even incidents and near incidents.[3] This culture is also based on the information provided to employees within companies, which can be used as a lever by the employer with the help of the occupational health service. In some countries, such as Norway, the concept of 'safety' is firmly established as a culture with a goal of zero accidents by 2030, not only at work but also outside the workplace, i.e. for society as a whole.

However, some weaknesses remain and need to be addressed. For example, Canada does not include suicides or deaths caused by cancer in its industry mortality statistics but cancer deaths (and some suicides) are included if reported to the Workers' compensation system. Suicide is partially included through periodic public health surveys. Other aspects should also be

[3] In Quebec the Public Health Network in Occupational Health's mandate is the prevention of occupational disorders, but not safety (which is he role of others in the system).

highlighted, such as 'regionalism'. In other words, occupational risks vary from one region to another. For example, in terms of fatal accidents, which are often related to falls from heights, some areas are more affected than others due, for example, to their dominant economic activity, which increases the risk of falls from heights. Another example is the significant use of immigrant labour that is insufficiently trained (or trained in a rushed manner) or unable to fully understand the training received (language barrier). This raises the issue of coordination between the various players and issues on informal work. Another factor contributing to weakness and poor access to occupational health services and prevention is temporary work, which is a vector for fatal accidents.

The debates also addressed the principle of integrated safety on this issue, with the idea of incorporating safety into workers' job descriptions. This also involves working on the actual work involved in the job, in addition to its theoretical description. The challenge is also to involve workers in prevention while ensuring an outside perspective on the situation. Habituation to the situation makes it difficult to see limitations or problems. One of the challenges would be to train, inform and reward companies that have implemented significant initiatives in occupational health and safety. The company is a social environment where prevention policies apply. This refers to Norway's 'zero accident' policy initiative. Since 2000, Norway has set a target of zero fatal accidents by 2030. Only 26 fatal accidents out of 2.9 million workers in Norway have been reported since the launch of this plan. The majority of fatal accidents occur in the most dangerous sectors. For each fatal accident, the police conduct a thorough investigation and the labour inspectorate takes the matter seriously. There is therefore coordination between occupational health services, labour inspectorates and the police on this issue.

In other countries, such as France, fatal accidents at work are often reported in the media in connection with suicides. However, fatal accidents at work are not only suicides; many are caused by falls from height. For this reason, the prevention of fatal accidents is extremely regionalised in France, with regional occupational health plans that implement the national occupational health plan at regional level. Furthermore, prevention is limited by the employment of workers from other countries who do not have the same understanding of safety at work. Migrant workers have a high accident rate, not necessarily because they lack a culture of prevention, but because the organisations that employ them make them do more dangerous work. They are also often employed on a very precarious and short-term basis.

Finally, occupational physicians do not deal much with temporary workers but increasingly. When fatal accidents are taken into account, they occur in agriculture and transport, and very often involve migrant workers employed in the informal sector. However, the Public Health Network in Canada has developed various preventive interventions and surveillance projects to document their prevalence. We have temporary foreign workers in many industries - not just agriculture and transport (e.g. health care; retail; fast food and other restaurants; hotels; tourism industries, etc.). It is a huge issue in Canada with many controversies.

Discussion: the need to work on risk perception

A genuine work based on risk perception, both among managers and workers, is essential. Occupational medicine and occupational health services have a central role to play in this aspect of the problem of fatal accidents. The United Kingdom sets an example by conducting

investigations not only when an accident occurs at work, but also when there is a shortcoming in risk assessment, based on truly centralised management of occupational health and safety in the workplace. Referring to the aptitude as a prevention tool is not necessarily the best approach, given that most employees who died as a result of their work were fit for work. Occupational physicians have the keys to adopting a preventive approach and analysing work situations with a minimum of hindsight for each employee, managers and the employer. This is a key to clarifying documents and procedures.

Training (initial and ongoing for occupational physicians) is therefore key to combating the numbing of analytical skills and promoting the empowerment of those within the company who are exposed to the risk of accidents. The issue of risk perception among workers, some of whom do not understand the training and therefore have difficulty understanding the instructions. The key lies in training, but in the language of the worker. The occupational health service does not work on these issues, so a link must be established.

It appears that some measures may fall outside the scope of regulations, obligations and standards. Rather than resorting to sanctions, therefore, the seminar emphasised the importance of empowering those involved. For example, among roofers, greater empowerment could encourage them to use anchor points on buildings in anticipation of subsequent work by roofers or other professionals working on roofs. Temporary workers must be also being considered.

3. Lifelong health (wear and tear/MSD, cancer)

This topic raises issues of individual and collective traceability of occupational diseases. It questions both individual monitoring of workers and primary prevention. Finally, retirement is a real issue when this topic is addressed through the conceptualisation of the right to retire in good health. This raises the definition of the concepts of "arduousness", which refers to work, and "wear and tear", which refers to the individual. The approach is therefore different when the subject of lifelong health is addressed. Raising the issues involved shows how essential occupational medicine is. In Canada, the public health approach makes it possible to identify the workers who are most at risk. The aim is to identify problems by looking at working conditions to see where action is needed and to define a prevention plan. The company can then take action and inspectors from the Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) in Quebec can help to bring about change (cooperation between doctors and the CNESST). This avoids an individualised approach. The impact and weight of the occupational physician's action therefore varies greatly between talking to the worker and investigating the work itself. With the new law on health and safety at work, it is up to the employer to seek the opinion of the occupational health network. This opinion makes it easier to adapt working conditions.

There are huge disparities between social classes, as well as in the ability to retire in good health. The issue is addressed differently in different countries, as the legal retirement age varies. Nevertheless, the work carried out during this seminar shows that comprehensive action is needed. Epidemiological studies tailored to the problem, based on reliable data, would make it possible to identify arduous jobs and sectors. Age and gender must be taken into account when studying occupational exposure. Night work is therefore a factor to be considered according to age and gender (e.g. exposure to cancer risks). Physical constraints and the nature of exposure vary greatly between men and women.

The raising of the legal retirement age is prompting some countries not to question prevention to keep workers healthy, but the age at which it becomes more difficult to remain in employment through the concept of 'heavy work'. This issue is therefore central in Belgium, which is considering raising the retirement age from 65 to 67. However, it is difficult to use data from occupational health records to determine the arduousness of work, and there is also the question of occupational physicians' access to personal data. Occupational physicians will therefore turn to the royal decree amending Book VIII of the Code on Well-being at Work with regard to ergonomics at work and the prevention of MSDs[4]. This text, which came into force on 25 May 2024, allows the discipline of workplace ergonomics to be taken into account from the design and layout of new workstations, but also when adapting existing workstations.

Better prevention keeps workers in work, even in so-called 'heavy' occupations. However, the system must not be too complicated or too hybrid in order to be applicable. While the Belgian system considers ergonomics to be one of the factors to be taken into account at the workstation level, taking into account basic ergonomic elements, a 'burnout plan' provides support for people suffering from structural problems with psychologists and doctors who intervene in addition to their individual management.

[4] https://www.ejustice.just.fgov.be/cgi/article.pl?language=fr&sum_date=2024-05-15&lg_txt=f&pd_search=2024-05-15&s_editie=1&numac_search=2024201403&caller=sum&2024201403=7&view_numac=2024201403nx2024201403f

Finally, when we talk about physical hardship, distinguishing between managers (and administrative staff) and manual workers, managers are caught in the middle, even though there are also aspects of physical hardship in their jobs. While the system takes into account the employer, the worker and the occupational physician, it overlooks the work collective and mutual support. Everything is individualised today (e.g. with individual interviews), which accentuates hardship and premature professional wear and tear, rather than thinking about visits that promote collective health. With regard to the analysis of psychosocial risks in Belgium, the methods are flexible (discussion groups or broad surveys) in order to find out about workers' experiences in relation to their work, whether in relation to their own work or to relations with colleagues and management. A consultation with management is organised to take the issue forward. Follow-up after the survey is essential to ensure that it is effective and can be repeated.

Employers must therefore implement a policy to prevent MSDs or other health problems caused or aggravated by musculoskeletal risks at work through a comprehensive approach that takes into account various risk factors, such as biomechanical risk factors, other risk factors related to the workstation and the results of risk analyses carried out in other areas of well-being that may have an impact on musculoskeletal risks at work (e.g. vibrations). The use of an ergonomist becomes mandatory from the design stage of the workstation. The Royal Decree also lists a number of biomechanical risk factors to be taken into account in the risk analysis, such as the use of force, repetitive movements, the duration and frequency of movements or tasks, working postures, work gestures and contact force. Appropriate preventive measures must then be taken to manage these musculoskeletal risks at work as effectively as possible. This prevention policy must also be evaluated and updated regularly[5] .

In addition to job retention, there is the question of returning to work in the same or a different position. However, in order to improve the work of occupational physicians, who play a major role in adapting work to people and their physical and mental abilities, it is important for them to be familiar with *the work history* of the workers concerned. Coordination with the attending physician should be considered in this regard, particularly with regard to the knowledge of occupational cancers among community healthcare professionals, but also to train them in protocols for exposure to carcinogenic, mutagenic and reprotoxic (CMR) substances. The idea would be to create a liaison form with the attending physician in order to adopt appropriate follow-up measures for the return to work, which could include the medical advisor. This approach is inspired by the reintegration process set out in Chapter VI, Title 4, Articles I.4-72 to I.4-82 of the Belgian Code on Well-being at Work. For example, following an examination and consultation with the attending physician and the medical adviser, the occupational physician draws up a report.

Japan emphasises primary prevention and not just occupational exposure. However, health promotion takes precedence through the intervention of health promotion associations in companies, which carry out screening during working hours for disorders related to work-related fatigue. However, this system is not entirely effective or effectively due to a lack of specialists in these areas within health promotion associations, but also because funding comes solely from these associations themselves. Finally, once workers retire, they are no longer monitored.

[5] https://emploi.belgique.be/fr/actualites/nouvel-arrete-royal-sur-lergonomie-au-travail-et-la-prevention-des-tms

Italy, like France, has a list of arduous jobs that allow for early retirement. However, this scheme does not address the issue of funding medical examinations after retirement, although a specific fund for asbestos exists. Other measures do exist, however, such as prevention and health promotion workshops specifically for workers over the age of 60, which could be mobilised for retired workers, but this is not currently the case, although this idea could make it possible to start tracking retired workers. As in France, the focus is more on the individual. The Canadian system takes a more epidemiological and collective approach, focusing on work and the determinants of exposure.

Measures in France:

France has addressed the issue of lifelong health through its pension reforms and the raising of the legal retirement age. This work gave rise to the concept of 'arduousness'.

- Measures to monitor exposure with delayed effects are now in place, reinforced since the law of 2 August 2021 and its implementing regulations on end-of-exposure and end-of-career medical examinations. Providing an opportunity to summarise the exposures encountered by employees during their working lives, these visits enable occupational physicians to inform employees and their general practitioners of any conditions that should be screened for after retirement. It is also, based on the latest scientific findings on various carcinogenic risks, one of the main areas for which good practice recommendations, issued by the French Society for Occupational Health and mostly validated by the High Authority for Health, have been developed. Financial provisions under the health insurance system complete this system. However, given the poor performance of screening for the main occupational cancers in terms of improving patient prognosis, this system is more a means of compensation than a tool for preventing morbidity and mortality. It should be added that this system is too focused on carcinogenic effects, whereas epidemiological data confirm that many other exposures cause delayed effects, including psychosocial risks.
- A problem that is much less taken into account is that of wear and tear at the end of a career. The SPSTIs have seen their missions strengthened in this area through measures to prevent professional disengagement (PDP) and maintain employment (ME). SPSTs are asked to help prevent wear and tear at work. However, while many social measures are in place to help reclassify or keep worn-out workers in employment, taking wear and tear into account would require an effort on the part of COMPANIES to develop jobs for older workers and truly adapt work to people. However, there is a significant gap between micro-businesses and even SMEs on the one hand, and large companies on the other, as only the latter usually have a variety of positions and a diversity of tasks that allow ageing, worn-out employees or those with disabling illnesses or multiple illnesses to be moved to suitable positions. In many SME work , the proportion of employees reaching the end of their career leads too often to incapacity. Social measures, which fortunately provide security for these employees at the end of their careers, typically during the last three years, have the downside of discouraging employees and employers from seeking other solutions, such as job adjustments.

Preventing wear and tear in France

From a lifelong approach to health based on the arduousness of work, which therefore concerns work itself, the French system has shifted towards a more individual approach, referring to 'wear and tear' at work. A key challenge is to reduce constraints from the start of a career in order to limit health deterioration and premature wear and tear from an early age. Occupational physicians use arduousness as a factor in redeployment (e.g. moving a night worker to a day job).

The system for preventing certain delayed effects, particularly occupational cancers, is in theory in place: in its single document, the employer, assisted by the SPST (occupational health service), particularly through the information provided in the company file, must draw up an inventory of the risks associated with the use of chemicals and processes classified as carcinogenic under the regulations in force. While the collection, updating and tedious reading of this information remains difficult for those unfamiliar with toxicology, Decree No. 2024-307 of 4 April 2024 requires each company to draw up a list of employees, including temporary workers, exposed to CMRs via products or processes. If implemented, this should lead to better identification, and therefore better prevention, monitoring and traceability of these risks.

With regard to wear and tear more generally, SPSTs obviously have a role to play, not only through an ergonomic (biomechanical and organisational) approach to workstations, but also by raising awareness of the benefits of risk prevention measures, or even risk factor control, psychosocial factors and well-being at work. However, the concept of primary prevention is not prioritised in practice. In many cases, although preventive measures are in place, employees themselves do not always use them, sometimes due to production pressures, but sometimes simply because they are unaware of the long-term effects and have become complacent about the risks. Wear and tear and premature ageing are still considered inevitable and unavoidable by many employers, but also by employees. The task of the occupational physician is not made any easier by the perception of preventive measures as constraints. The efforts made by all those involved in occupational health services to provide information and raise awareness during medical examinations and, above all, at the workplace are not enough to make up for the lack of a prevention culture.

The French system is nevertheless developing a number of occupational health measures, such as mid-career check-ups, end-of-career check-ups, occupational exposure records listing exposed employees (which in practice are only virtual), and shared medical records (DMP). What is offered corresponds to the current situation, even though changes are possible. Involving the general practitioner with a DMP therefore becomes an issue here.

While mid-career check-ups would make it possible to detect wear and tear, in reality this screening should be carried out during all check-ups. The initial aim was to raise the retirement age and identify people at risk of losing their jobs or becoming disengaged from the labour market. Some SPSTs have also realised that this is a very useful lever for making workers aware of the possibilities of a change of direction with the professional disengagement unit. As for the end-of-career visit, this should be able to avoid a break with work by organising post-exposure follow-up.

Funds have been set up. For example, the compensation fund for asbestos victims and their beneficiaries (FIVA) and the compensation fund for pesticide victims (FIVP), but these funds are not intended to be preventive. On the other hand, the Investment Fund for the Prevention of Occupational Wear and Tear (FIPU) aims to protect the health of employees most exposed to

ergonomic risk factors (manual handling of loads, awkward postures, mechanical vibrations). Pursuant to Article L. 4624-3 of the Labour Code, at the end of any visit carried out by the occupational physician (with the exception of the pre-return visit), the occupational physician may give the worker a document recommending measures to adapt the workstation, which will accompany either the follow-up certificate or the fitness certificate issued at the end of the same visit, as appropriate. However, companies make very little use of the FIPU.

Discussion: understanding the stages of occupational wear and tear and arduous working conditions

These discussions show that work-related wear and tear must be addressed in three stages:

- Prevention of wear and tear
- Adaptation to wear and tear
- Assessment of wear and tear

However, the issue is often approached backwards, starting with the end, the third stage, which is assessing burnout, i.e. its ultimate consequences. Yet it is these consequences that are the subject of the most regulations, particularly in France, and which divert attention away from prevention.

It is therefore clear that the issue of lifelong health is not currently being approached from the right angle. The energy expended on the issue of retirement age would be better spent on improving working conditions and reducing factors contributing to arduous working conditions wherever possible. The debate on age could then take into account situations where arduous working conditions, as reflected in epidemiological data on healthy life expectancy according to occupation, cannot be easily reduced. However, this is a medical perspective, which is not necessarily in line with that of the social partners. Nor is it necessarily in line with the issue of company size, particularly the problem of small and very small enterprises.

Regardless of the occupational physician's opinion during these visits, it is companies that have the leverage to offer or create jobs that are compatible with the health of their employees. Efforts to anticipate the ageing and wear and tear of employees, to create jobs that value their experience while reducing the constraints imposed (at least physically), are not sufficient. The low number of such positions limits the impact of occupational physicians' advice, as any reorientation or training for compatible jobs only has an effect if positions are available.

There is still far too little thought given to such age-based career paths. A scientifically validated tool for measuring risks in order to identify ways of addressing issues such as anxiety would be a step forward: monitoring employees every two years up to the age of 50, followed by different protocols from the age of 50 and then from the age of 60. Many people over the age of 60 look forward to retirement as a time of reimagining a very pleasant future, while others cannot see retirement coming and develop anxiety. The challenge here would be to develop a programme to maintain links between people and a new tool to measure health after retirement. Maintaining links is therefore important in order to assess which jobs are more demanding than others. However, occupational health services are not informed about the future of people who retire.

4. Consideration of mental health in the workplace – psychosocial risk factors

While mental health in the workplace is now generally considered in accordance with various legal standards or case law, and occupational physicians are responsible for paying attention to it or looking into how workstations can be adapted to workers' physical and mental abilities, there are few operational tools available. Among the countries represented, Japan offers an annual stress check-up called the Stress Check Programme. The presentation of this programme is the starting point for a broader discussion of its assessment by representatives from other countries.

This is not a health examination, but a self-assessment that employees are free to take or not. The aim is, on the one hand, for workers to recognise their own stress levels and, on the other hand, for employers to determine the stress levels within each organisation in order to improve working conditions and the working environment. All workplaces with 50 or more employees must implement the Stress Check Programme at least once a year for their employees (which poses a problem for companies with fewer than 50 employees). Employers must not be informed of the results for individual employees without their consent. However, employers are given an overview of the stress levels in the workplace. The company appoints an occupational physician or nurse to conduct this study and informs employees of the results. At the individual level, this study may include an interview with the occupational physician. For their part, employers can use the collective results to improve working conditions and identify services at risk. The company's commitment to the occupational physician is essential to this programme.

The test is based on job requirements and mental health through the support of management, colleagues and the concept of '*perceived organisational support*' (POS), i.e. the 'general belief about the extent to which the organisation values the contributions of workers and cares about their well-being. [6] The lower the POS, the lower the accident rate. It is in the employer's interest to promote perceived organisational support in order to improve prevention and enhance the quality of the relationship between workers and the organisation of work.

The Canadian and Quebec systems focus on psychosocial risks rather than stress and distinguish between the sources of stress symptoms and the determinants of psychosocial risks. For example, the Institut national de santé publique du Québec (INSPQ) identifies the following as psychosocial risk factors: workload, decision-making autonomy, recognition at work, social support from managers or colleagues, psychological harassment, organisational justice, information and communication. [7] Work-life balance is also a particularly important issue in Quebec, where it involves gender considerations. In addition, organisational and work-constraints fall within the scope of the physician's practice. In France, the 2011 report by the College of Experts on the Monitoring of Psychosocial Risks at Work, known as the 'Gollac and Bodier Report: Psychosocial risks at work: a challenge for employers and the state' ([8]),

[6] Rhoades and Eisenberger. Perceived organisational support: A review of the literature, J Appl Psychology, 2002; Bakker, A. B., & Demerouti, E. (2008). *Towards a model of work engagement.* The Career Development International, 13(3), 209–223; Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). *Perceived organisational support*. Journal of Applied Psychology, 71(3), 500–507.

[7] https://www.inspq.qc.ca/risques-psychosociaux-du-travail-et-promotion-de-la-sante-des-travailleurs/risques-psychosociaux-du-travail

[8] M. Gollac, M. Bodier, *Expert Committee on the Monitoring of Psychosocial Risks at Work. Measuring psychosocial risk factors at work in order to control them,* Report by the Expert Committee on the Monitoring of

submitted to the Minister of Labour, distinguishes six psychosocial risk factors: work intensity and duration, emotional demands, autonomy and discretion, social relations and recognition at work, value conflicts, and job insecurity. In the United Kingdom, six main areas can lead to work-related stress if not managed properly. These are demands, control, support, relationships, role and change.[9]

These discussions raise the question of the impact of occupational physicians on work organisation and the need to increase their leadership skills to persuade companies to tackle issues of stress, mental health and psychosocial risks at work head-on. This approach would reinforce employers' obligation to ensure the physical and mental health of their employees by improving their organisational management and increasing recognition of mental illness and suicide as occupational diseases or accidents at work.

The Portuguese experience highlights the value of a common tool used by occupational physicians and psychologists. While the idea may gain traction, the questionnaires used in trials vary greatly depending on the sector. Belgium also uses a system of indicators that combines individual and collective dimensions. In other words, policies based on the results of surveys or workshops in companies are based on individual indicators to construct collective indicators. The advantage here is that it takes into account the relationship between work and psychosocial risks and stress at work; for example: do you feel stressed at work? Do you have the resources to cope with it? Emphasis is also placed on the importance of recognition at work, which requires appropriate behaviour on the part of management. This aspect also exists in Norway, where psychosocial risks are included in a self-assessment questionnaire. To be effective, this approach requires genuine involvement from company management, who must emphasise the importance of follow-up. Finally, Croatia has rolled out a system of psychological consultations provided by the company (five appointments per employee), which is based on a policy of raising awareness of the effects of stress and qualitative surveys in the workplace.

Quebec and Belgium expressly recognise psychosocial risks[10]. This is not the case in France, except for the ratification of ILO Convention No. 190 on violence and harassment in the world of work, which recognises psychosocial risks. Although a law to strengthen occupational health prevention was adopted on 2 August 2021[11], the concept of 'primary prevention' does not appear explicitly in the Labour Code, despite the terms used in the national interprofessional agreement (ANI) of 19 December 2020 on enhanced prevention and a renewed offer in terms of occupational health and working conditions, which served as the basis for this text. Nevertheless, the data produced by occupational physicians, and more broadly by the occupational health and safety service, can be used in collective bargaining on occupational health in the company, particularly in the context of specific negotiations on quality of life and working conditions (Law No. 2021-1018 of 2 August 2021 to strengthen occupational health prevention (QVCT). This may involve linking individual health data to organisational causes and risk factors, and integrating it into mental health first aid training plans. The aim is to equip companies to take action, to avoid diluting the involvement of stakeholders and to not only initiate actions on stress at work, but to address psychosocial risks more broadly.

Psychosocial Risks at Work, following a request from the Minister of Labour, Employment and Health, Apr. 2011, 223 p.

[9] https://www.hse.gov.uk/stress/causes.htm

[10] Code on well-being at work in Belgium, Law on Health and Safety at Work (LSST) in Quebec.

[11] Law No. 2021-1018 of 2 August 2021 to strengthen health prevention at work, *JORF* of 3 August 2021.

Discussion: the need for an objective and concrete approach to mental health at work

Whatever the causes, the prevention of psychosocial risks, although growing, remains difficult to promote in companies for a variety of reasons. A country such as France is deeply traumatised by the 'France Télécom affair', which led to a wave of 35 work-related suicides between 2008 and 2009. On 21 January 2025, the Court of Cassation recognised the concept of 'institutional moral harassment at work'.[12] However, this case addressed mental health at work and psychosocial risks through their most dramatic aspect (suicide) and through their management by the judicial and criminal authorities to determine responsibility within the company. Health and prevention services in the workplace therefore find it extremely difficult to make it clear to company managers that they are not there to identify faults and find those responsible. Their role is to identify professional issues and propose solutions to remedy them.

Added to this is the questioning of the organisation of work, communication methods and management within the company. However, this approach can be perceived by employers as highly intrusive and critical of their managerial authority. Occupational physicians are also perceived as enforcers of subjective individual perceptions and must also deal with the confrontation between the effects of work and the effects of personal life on the mental health of employees. Occupational physicians therefore need to work on objective criteria and indicators to assess work-related mental health and psychosocial aspects.

In fact, most interventions in the psychosocial field in companies take place as a result of the occurrence of disorders or the collective or individual consequences of psychosocial risks: absenteeism, staff turnover, verbal or physical aggression in the workplace within teams, anxiety and depression among employees, waves of incapacity, etc. In this deteriorating context, conducting a calm and constructive analysis of working conditions is even more difficult, and this phase will often only address some of the most emblematic and visible issues. The analysis carried out by the occupational physician therefore tends to be fairly superficial and results in reports that lack substance and do not include concrete, specific measures to be implemented on the ground, within the company and among teams.

Ideally, companies should treat the prevention of psychosocial risks as a normal part of their prevention policy, in the same way as other areas of occupational risk. Normalising the approach and implementing it 'cold' with the occupational health service, while the company is not yet (or no longer) facing psychosocial risks and disorders, would make it possible to take a broader view of all psychosocial issues. This requires objective and reproducible criteria for assessing a work situation in order to implement concrete, precise measures in the field, within the company and within teams .

This approach must comply with a number of principles:

- Address issues by analysing how things work, by job, rather than by individual, in order to achieve a functional approach that does not assign blame;
- Propose real, observable measures, ranging from physical changes to the environment and work resources to procedural changes, organisational chart modifications, training, etc.;

[12] Cass. Crim. 21 January 2025, No. 22-87.145.

- Empower companies to take psychosocial risk factors into account with long-term support from occupational health services and occupational physicians in order to continuously create conditions conducive to dialogue that prevents the emergence of new psychosocial risks.

5. Digital transition challenges

The discussion on this topic focused on three main points: the specialist software used by occupational health services, the development of teleconsultation and the introduction of new technologies in the workplace. From the perspective of the French system, the issue of harmonising specialist software attracted particular attention. The lack of harmonisation of business software appears to be a significant problem for occupational physicians in the management of their daily tasks (occupational health records, job descriptions, specific activities carried out, personal protective equipment provided, feelings about work, future prospects, family composition). However, the digital transition is a key issue that must also be integrated into occupational health services. The EU-OSHA 2023-2025 prevention campaign therefore emphasises the digital platform, which is becoming a priority area.

Many occupational health services and occupational physicians are underinvesting in IT tools, despite the potential for interoperability between software and automation of administrative tasks. Data processing is also a very important issue. However, it is important to recognise that not everyone learns at the same pace.

Teleconsultation is also becoming an issue, but with different perceptions. For example, it is developing in France, but is not possible in Portugal due to the risk of misuse of this technology. Companies are in favour of this system because teleconsultation represents a simplification, but they are not of sufficient quality. The 'human relationship' aspect is lost: how can you comfort a worker who is crying because they are being harassed? More prosaically, it is the relationship between the patient and the occupational physician that is called into question with regard to the security of data from teleconsultations.

Other opinions emphasise that teleconsultation can be beneficial when it is strictly regulated, for example when there is no need for an associated physical examination. Certain visits, such as pre-employment medicals or return-to-work assessments, would therefore be excluded. However, this is not a panacea that would solve the shortage of occupational physicians, but it could bring some flexibility to the practice of occupational medicine and improve traceability. Thus, considering an application for all that could be developed in certain economic and political areas (e.g. the European Union) could improve the situation of expatriate workers (at least with regard to basic practices). For remote practice, it is also possible to use environmental sensors (e.g. for firefighters) that collect a wide range of information. However, this information can be very extensive, and occupational physicians will not be able to process it all, so artificial intelligence could prove to be an asset. Furthermore, data is one thing, but it is also necessary to collect the 'right data' to ensure adequate medical monitoring, document exposure, and create profiles and cross-references. Software must therefore be able to work together and avoid 'data silos'.

Some experiments have been developed around a partnership between an occupational nurse and an occupational physician. A nurse is trained on site and, during consultations, communicates with the occupational physician, who then tells them what to do. While the advantages include increased skills among nurses and the ability to intervene in areas where occupational physicians are not available, the time-consuming nature of the process and the need for two people at each consultation are also highlighted. Furthermore, in some countries, although teleconsultation is an option due to areas not covered by occupational physicians, recurrent power outages and poor internet quality present major logistical challenges.

There is some reluctance to use teleconsultation. However, it was useful during the COVID period to keep in touch and facilitate access to medical examinations for employees, but with the problem of a possible decline in the quality of consultations. Teleconsultation could be considered a 'tool within a tool' that does not replace face-to-face consultations. This tool makes it possible to increase the number of exchanges over time for the follow-up of an employee. In remote visits, the feedback is that workers are more open in this way.

The digital transition also poses ergonomic problems. Changes in posture when working in front of a computer screen must be carefully considered when designing new workstations or teleworking solutions (e.g. introduction of tablets). Occupational health in this context refers in particular to musculoskeletal disorders. It also raises questions about the recognition of chronic pain[13] and the need to take into account the discomfort caused by the introduction of new technologies, both in material terms and virtually, with the implementation of new software, for example. This issue is becoming increasingly important in the context of a social construction approach to prevention in relation to the introduction of new IT tools.

In light of this issue, in occupational medicine practice, the importance of the cognitive impact of digital tools and their proliferation (e.g. the proliferation of notifications) must be considered in the context of quantifying this development. With regard to primary prevention, the worker's point of view is not taken into account in the design of databases, interfaces and software, either in terms of the tool used or until the very end of the software development process. The same applies to the design of machines based on specifications drawn up without any real representation of workers. Occupational physicians could act as intermediaries, as they could, in their task of adapting work to people's physical and mental abilities, address the relationship between workers and cobots. However, these tasks are complex for occupational physicians, as human workers are becoming part of the production chain, a mere link in the digital chain.

Discussion: digital technology, a tool with two sides

Digital technology is now omnipresent in the world of work in general, and in occupational health services in particular. Firstly, following the *Health Impact Assessment* (HIA) model in Japan,[14] , we must look at the negative effects, but also highlight the positive aspects.

For occupational health services, digital tools and software developments offer the possibility of better classifying, tracking and, above all, exploiting data related to the workplace and health. This is a real opportunity to generate knowledge from the virgin forest of data that has remained unexplored until now. It is also an opportunity to break down data silos in order to generate knowledge, adapt our practices and optimise preventive measures. In the era of *evidence-based medicine*, data silos are facing a number of obstacles, including the harmonisation of data entry, the number of healthcare professionals required to enter data, and excessive workloads.

Teleconsultation, which became widespread during the COVID-19 health crisis, now offers interesting possibilities. Providing a secure environment in terms of data confidentiality, and subject to compliance with a number of rules of good practice and supervision (employee

[13] Roquelaure Y. (2018). *Musculoskeletal disorders and psychosocial factors at work*. ETUI, Report 142, https://www.etui.org/sites/default/files/FR-Rapport-142-roquelaure-WEB.pdf

[14] This is a series of processes and methodologies for predicting and assessing in advance how newly introduced policies in the workplace will affect health. The aim is to optimise policies and measures that promote health benefits and minimise disadvantages.

consent, normal maintenance of occupational health records, etc.), the various teleconsultation tools (software, kits, booths, etc.) are enriching the toolbox of healthcare professionals. In the field of psychosocial risks, it appears that these tools even encourage some people to speak out.

In the corporate world, the digital transition is creating new professions and new jobs, while reducing the burden of certain tasks. Artificial intelligence is opening up new prospects for progress, development and data integration. However, human and organisational risks must be anticipated and managed, and occupational physicians have an essential role to play here in terms of adapting work.

In conclusion, the digital transition, which is developing exponentially and offers seemingly endless possibilities, must remain what it is intended to be: one tool among many in occupational medicine. Like all tools, humans must know how to use it in a thoughtful and controlled manner, taking into account the limitations of human operators or users. Mastering the tool and not placing blind trust in it will be all the more necessary with the rise of artificial intelligence.

6. Taking climate change into account

If companies must adapt to climate change, they must also adapt to changing working conditions. Psychosocial factors are also involved. Occupational physicians play a key role in alerting companies to the need to adapt working hours or equipment.

Occupational physicians can refer to the WHO and WMO Health and Climate Atlas, which highlights the links between health, climate and climate change. It contains important scientific information on the relationship between weather, climate and major health issues.[15] Finally, while in Japan the *Health Impact Assessment* (HIA)[16] applies to teleworking and psychological distress, it can also be applied to climate change by acting on working conditions and using various tools such as the ISO45007 *Occupational Health and Safety Management* standard.

For occupational physicians, the issue of climate change is not only embodied by high temperatures, but also by new infections (e.g. brought by mosquito bites, the spread of Lyme disease carried by ticks), allergies, forest fires, increased rainfall, more violent storms, new occupational inequalities, increased irritability and violence at work, etc.[17] In this regard, the Institut national de la santé publique du Québec (INSPQ) has carried out work on climate change and all the issues related to working life and associated psychosocial factors.[18] In addition to the known preventive measures (adapting working hours, more breaks, naps, hydration), occupational physicians also play an important role in ensuring that these measures are implemented. They must also take into account time spent outside of work. Climate exposure is not limited to the world of work, and climate change will also have indirect impacts through its effects on time spent outside work. For example, during heat waves, recovery is slower and sleep is poorer, leading to fatigue and impacting workers, their work and occupational risks.

Training is an essential aspect of promoting this issue among occupational physicians. For example, the *Royal Leadership Academy* incorporates leadership training for occupational physicians into its programme, which aims to bring about this type of change around the world. In Canada and Quebec, the INSPQ training programme already makes this subject compulsory. Occupational physicians must be prepared for these changes and understand them through training.

The role of occupational physicians is to prevent risks. An educational role is important, for example, informing workers of the need to drink frequently, but also that the misuse of certain PPE during hot weather can lead to death, or that soot deposited after forest fires must be cleaned properly. Climate change is not really included in the occupational risk assessment document in France. In addition to the warning role of employee representatives, the occupational physician is responsible for encouraging employers to take climate parameters into account in this document and to find ways to avoid exposure to this risk, as well as to provide employees with better training.

Discussion:

[15] https://www.who.int/fr/publications/i/item/atlas-of-health-and-climate
[16] *Op. cit.*
[17] See the ANSES report (2018). *Effects of climate change in the workplace: increased occupational risks and essential mobilisation of the world of work*, https://www.anses.fr/system/files/AP2013SA0216Ra.pdf
[18] https://www.inspq.qc.ca/changements-climatiques

Climate change is often perceived in companies, and among the general population, through its direct effects and acute risks, particularly those associated with heat waves. The phenomenon is much more complex and will have consequences that are not yet fully understood. For example, the impact of migration flows on work and the clash of cultures and languages are not yet fully addressed in relation to occupational safety.

However, apart from efforts to reduce the effects of climate change (lower energy consumption in transport, heating and air conditioning, digital data storage, waste management, etc.), which is one of the challenges of CSR (corporate social responsibility) initiatives, companies no longer have any control over the acceleration of climate change. Rather than simply including it as is in the single risk assessment document, it would be more appropriate for employers, with the help of occupational physicians, to include both the risks caused by climate change and those affected by it, and to reassess existing risks that may be altered by climate change. This process will lead to the adjustment of preventive measures in line with economic conditions. This approach also raises the question of the role of occupational physicians in corporate social responsibility (CSR) policies.

6. Recommendations for optimising occupational health practices and occupational risk prevention

6.1. Fatal accidents

- Combine the prevention of occupational and non-occupational accidents.
- Conduct investigations not only when a workplace accident occurs, but also in cases where risk assessments are inadequate, based on a genuinely centralised approach to occupational health and safety within the workplace.
- Better considering temporary workers.

6.2. Lifelong health

- Conducting epidemiological studies tailored to the issue.
- Taking age and gender into account when studying occupational exposures.
- Applying ergonomics within a legal framework for the adaptation of work throughout the working life (Belgian example).
- Improve healthcare professionals' understanding of the *curriculum laboris* of the workers concerned in terms of exposure.
- Establish a system for tracking workers after they have retired and assess the effects of occupational risk factors on the health of retirees.
- The mid-career health check must not obscure the need to detect wear and tear during all health checks.
- End-of-career health check: avoid a break from work, organise post-exposure monitoring.

6.3. Consideration of mental health in the workplace – psychosocial risk factors

- Introduce an annual collective health check-up for workers so that working conditions can be adapted based on the results, whilst also identifying high-risk departments. The company's commitment to the occupational health physician is essential.
- Consider the benefits of a shared tool used by occupational health physicians and psychologists.
- Better define the occupational health physician's role in the organisation of work: there is a need to enhance their leadership skills to persuade companies to tackle head-on the issues of stress, mental health and psychosocial risks at work.

6.4. Digital transition challenges

- Harmonise business software and automate administrative tasks.
- Ensure that occupational health practitioners take workers' cognitive health into account.
- Provide a framework for teleconsultations, make monitoring equipment available to patients in a suitable environment, introduce greater flexibility into occupational health practice, and improve traceability. Exclude certain visits (new hires, return to work).
- Take workers' cognitive health into account in light of the increased workload caused by the growing demands of communication tools.
- Prevent the risk of musculoskeletal disorders caused by the introduction of new technologies.
- Adapt the relationship between humans and machines.

6.5. Taking climate change into account

- Take into account the effects of climate change on employees in the workplace, as well as the indirect impacts on workers through its effects on their non-working hours (poor recovery, poor-quality sleep).
- Through the work of the occupational physician, encourage employers to take climate-related factors into account in occupational risk assessment documents and propose ways to address them.
- Implement information and awareness-raising initiatives regarding these risks for both employers and employees.

Conclusion

This summary and analysis of the international workshop held in Sarlat on 14 and 15 November 2024 presents a mixed picture of occupational health practices across the countries studied, whilst suggesting ways to improve the occupational risk prevention related to occupational health and occupational health services. Discussions between experts from 11 countries revealed structural, cultural and regulatory differences, but also common ground regarding the challenges posed by fatal accidents, mental health, technological change, lifelong health and climate change.

The discussions highlighted the importance of moving beyond a purely individual approach to embrace a systemic vision of occupational health. The use of occupational health services and occupational medicine is no longer merely a legal obligation for employers, but a lever for public health. By protecting workers, it thus helps to reduce social inequalities in health (access to care, prevention of workplace accidents and occupational diseases), improve productivity (by limiting absenteeism and disengagement from the workforce), and strengthen the capacity to overcome crises (climatic, health-related or technological).

The avenues identified during this symposium offer an ambitious roadmap for tackling numerous challenges, such as the shortage of doctors, the administrative burden, and resistance to change from certain stakeholders. In response to this, potential solutions are emerging through comparative analysis: strengthening interdisciplinary collaboration, better integrating digital tools into the functioning of occupational health services, training employers to recognise occupational risks, participating in worker training, and, finally, drawing inspiration from the proven best practices of other systems.

This work thus opens up the prospect of strengthening international networks, disseminating these best practices, and equipping occupational health services with the means to act earlier, more broadly and more effectively. The challenge is not merely to address the consequences of work, but to foster a shared culture of prevention in order to anticipate risks, reduce the physical and mental strain of work, and build more sustainable working environments for the benefit of workers and public health alike.