ECONOMIC AND SOCIAL COMMITTEE

SOC/91

Brussels, 21 September 1984

R E P O R T
of the
Section for Social Questions
on
Occupational Medicine

Rapporteur : Mr MOURGUES

C O N T E N T S

Procedure

In its Opinion of 28 April 1983 on the Council Resolution on a Second Action Programme of the European Communities on Health and Safety at Work (CES 440/83), the Economic and Social Committee stated its intention of holding a discussion on the functioning of, and improvements to, occupational medicine in the Community.

At its 211th Plenary Session held on 26 and 27 October 1983, the Economic and Social Committee instructed the Section for Social Questions to draw up an Opinion on Occupational Medicine under the fourth paragraph of Article 20 of the Rules of Procedure.

The Section appointed the following Study Group at its 166th meeting held on 10 November 1983 :

Chairman : Mr BAGLIANO

Rapporteur : Mr MOURGUES

Members : Mr BRASSIER
Mr ETTY
Mr FLUM (replacing Mr PRONK under Article 50 of the Rules of Procedure)
Mr LÖW
Mr MULLER
Mr NOORDWAL
Mr POETON
Mr RAINERO
Mr STORIE-PUGH (replacing Mrs HEUSER under Article 50 of the Rules of Procedure)
Mr VERCELLINO

Rapporteur's expert : Mr NEDZYNSKI

Group I expert : Mr CORDY

Group II expert : Mr BUTSAMANTE

Group III expert : Dr Mc ELEARNEY

The Study Group met on the following dates :

- 18 January 1984
- 7 February 1984
- 18 April 1984
- 22 June 1984

1. The Facts

Whatever form it takes and in whatever sector it is performed, (agriculture, industry or services), work, like any other human activity, entails a certain number of risks and dangers that are liable to impair the physical and mental health of workers.

The organization of work and production, as well as production methods themselves, have repercussions not only on the health and safety of workers but also in certain circumstances on the external environment of the undertaking.

In spite of all the technical progress that has been made, the risks of accidents at work and of work-related diseases are still too high.

The hazards connected with work are in particular the result of :

- the organization of work and production;
- production methods;
- the agents, substances and techniques used;
- the pattern and pace of work;
- other elements going to make up the working environment.

Accidents at work and work-related diseases can be ascribed to technical shortcomings, the use of toxic products and substances, methods of organizing work and production incompatible with health and safety requirements, the inadequacy of preventive and protective measures, and the failure to analyse the effects on health and safety of new products or processes before they are introduced. They may also be the result of human shortcomings and reflect insufficient training and information about the techniques and materials used and about their effects on health and safety at work and on the regulations applicable in this sphere. This lack of information is particularly dangerous for categories of underprivileged workers, e.g. migrant workers.

Accidents at work and work-related diseases are a scourge in terms of both their frequency and their seriousness.

Although too often incomplete and disparate, the available data do show the scale of the problem and justify constant efforts to secure the adoption of various measures in order to try to limit and prevent accidents at work and work-related diseases.

In France, reported accidents at work increased from 13,492,184 in 1973 to 14,075,205 in 1980. Of these 14,075,205 accidents, 971,301 entailed absence from work, 101,821 led to permanent invalidity and 1,423 resulted in death.

The following table covers 1980[1]

COUNTRY	WORKERS EMPLOYED	ACCIDENTS AT WORK ENTAILING ABSENCE FROM WORK	FATAL ACCIDENTS AT WORK
Ireland	868,000	4,330	30
Luxembourg	137,400	16,530	17
Belgium	3,230,000	210,000	250
Greece	1,668,000	47,500	250
Denmark	2,091,000	33,900	75
Italy	15,239,000	1,600,000	2,200
United Kingdom	22,834,000	400,000	700
Netherlands	4,548,000	90,000	80
France	18,133,000	971,301	1,423
Germany	22,296,000	2,158,000	3,998

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[1] Source : European Commission. Other statistics are to be found in Appendix 2.

On examination it becomes immediately clear that these data are highly disparate and show a lack of homogeneity in the collection of information on accidents at work. In some countries the data also cover accidents on the way to work (e.g. Belgium, Germany); in others the statistics cover only accidents at work entailing at least three days absence from work, contrary to the situation in some countries where accidents at work are recorded as from the first day of absence. Despite this lack of comparability these data do, however, indicate the scale of the phenomenon of industrial accidents and justify the adoption of all possible measures to reduce these accidents. They highlight the urgent need for Community-level harmonization of the statistics on accidents at work and work-related diseases, as called for in the Council Resolution of 27 February 1984 on the second Community action programme on health and safety at work.

The data on work-related diseases are even more divergent, notably because of the disparity of the rules on notification of work-related diseases. It is noted in the aforementioned Report of the European Parliament that according to certain bodies 6% of diseases are of occupational origin whereas according to others the figure is 40%. Accidents at work and work-related diseases mean high costs for workers, employers and society at large.

Workers who are victims of industrial accidents or work-related diseases suffer not only an impairment of their physical or mental health, which is a priceless asset, but also losses of income which affect not only themselves but also their families and which are only partly offset by the benefits paid under social security schemes insofar as the workers in question are covered.

The cost of industrial accidents and work-related diseases is also a burden on undertakings. This cost is reflected first of all in employers' contributions to the social security schemes which provide benefits and treatment for the victims. It also takes the form of losses due to interruption of production and the absence from work of sick or injured workers; costs connected with the replacement of incapacitated workers, compensation, etc.

Society also bears part of the cost of these accidents and diseases through benefit schemes. To this must be added the waste of human resources resulting from incapacity and invalidity. This fact and the importance of protecting the health and safety of all explain the efforts to prevent industrial accidents and work-related diseases as far as possible.

These efforts have taken the form of numerous actions and preventive measures introduced both by legislation and under collective agreements, such as :

- the adoption of safety standards for workplaces;

- the implementation of various protective provisions covering working hours, specific categories of workers, certain occupations and activities, the use of various products and equipment, certain forms of work;

- the introduction of machinery to enable workers to be informed and consulted before new products or processes are used, particularly in the form of safety and hygiene committees and negotiations on working conditions;

- the setting-up of occupational health services and factory inspectorates with the task of protecting the health and safety of workers;

- the development of training and research in the area of hygiene and safety at work, etc.

Occupational medicine is considered to be one of the pillars of an effective policy for preventing industrial accidents and work-related diseases. That is why the major principles of occupational medicine are

defined in the Member States by specific laws or by specific provisions of the laws on health and safety at work. Occupational medicine is considered to be in the public interest in the Member States and to be a key element in the prevention of industrial accidents and work-related diseases and in the improvement of working conditions. Several international bodies have also studied the question of occupational medicine in depth. The International Labour Organization, for example, examined a report on occupational health services at its 70th Session in 1984. This report came after other initiatives taken earlier by the ILO.

In 1972 the Council of Europe adopted a recommendation on the harmonization of measures to protect workers' health at the workplace. This document aimed primarily to promote the development of occupational health services in the Member States of the Council of Europe.

The Community has also adopted instruments, albeit non-binding, in this field. These are in the main :

- the Commission's Recommendation of 20 July 1962 to the Member States concerning occupational medicine in undertakings;

- the Commission's Recommendation of 27 July 1966 to the Member States concerning medical check-ups for workers exposed to special hazards.

Other Community texts also refer to occupational medicine and to the need to develop it.

A particular example is the Council Resolution of 27 February 1984 concerning a second Community action programme on health and safety at work (84/C 67/02 OJ of 8 March 1984).

These Community measures in the area of occupational medicine are based on Articles 100, 117, 118 and 235 of the Treaty establishing the European Economic Community. The ECSC Treaty (Article 55) and EURATOM Treaty (Title 2, Chapter III) also contain provisions justifying Community measures in the field of occupational medicine.

2. Definition of occupational medicine

Among the numerous definitions of occupational medicine the Section would pick out the following :

> "Occupational medicine deals with the effects of work on health and with the effects of disease on capacity for work. Its function is to prevent the impairment of workers' health that could be caused by working conditions (this includes accident prevention) and to guarantee individual workers jobs in keeping with their physiological and psychological aptitudes[2]."

3. The role of occupational medicine

The definition of occupational medicine gives a pointer to the role of occupational medicine. All the Member States are in agreement on this basic role.

The main task of occupational health services everywhere is to prevent accidents at work and work-related diseases.

Views diverge, however, as to the scope of the curative role of occupational medicine. In certain countries this is very limited, since it is considered that the treatment of sick or injured workers should take place basically outside the undertaking and should be the responsibility of the public health services.

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[2] Source : Report of the "Specialists' Training" working party of the Advisory Committee on Medical Training attached to the Commission of the European Communities.

Under this approach, the curative role of occupational medicine is confined to emergency treatment when accidents occur or health problems manifest themselves at work.

In Belgium and France, for example, the law provides that the occupational physician has a preventive role and may not treat workers, except in cases of emergency. In Belgium the occupational physician also supervises the facilities available for emergency treatment (first-aid boxes, rest rooms, isolation rooms, supervision of first-aid workers and nurses, etc.). In the Federal Republic of Germany, occupational medicine has an essentially preventive function : a works doctor may not engage in therapeutic activity except in urgent cases and to provide emergency treatment in the event of accidents. The same applies in other countries.

In Denmark, curative action may embrace the following, in addition to emergency treatment :

- advice to the workers' own doctor;

- after consulting the workers' own doctor, treatment of ailments which are caused exclusively or principally by the working environment and can only be treated effectively by changing the working conditions;

- subsequent monitoring, after consultation of the workers' own doctor.

On the other hand, it is unanimously agreed that occupational health services should not have any right to check or assess the reasons given to justify absence from work.

These limitations laid down in Member State regulations apply only to occupational medicine and, in most countries, do not prevent doctors who only practise occupational medicine on a part-time basis from also practising general medicine including curative medicine.

Nevertheless, the preventive role is considered fundamental everywhere. The prime task of occupational health services is therefore to monitor workplaces and make any recommendations that are necessary to secure optimum adaptation of working conditions and the organization of work to the worker and ensure that his health and safety are not jeopardized.

Certain national laws define this activity in the area of working conditions only in very general terms, whereas other laws are more precise and specify that occupational health services should exercise supervision and make recommendations in the following fields :

- the cleanliness of work rooms, tools and plant, and general hygiene in the undertaking;

- the risks of work-related diseases;

- the protection of workers against toxic agents (toxic products, noise, heat, etc.);

- individual protective equipment;

- the observance of regulations;

- adaptation of work to the worker;

- seats for working and relaxation and ergonomic design;

- facilities for first aid and emergency treatment;

- the stresses a worker is exposed to on account of the nature of his work, his working hours, the working environment and the pace of work such as that resulting from piece work or automation of the production process, etc.

It is often considered that the preventive role of occupational medicine should cover not only existing working and production conditions but also plans for introducing new production techniques and changes in the organization of work so that action can be taken before rather than after such plans are carried out.

In France, the occupational physician must be involved in the study of any new production technique and be informed of the nature and composition of the products employed and how they are to be used.

In Belgium, the ocupational physician is also involved, together with the head of the safety department, in examining tender specifications and orders before any new machinery or equipment is introduced into the undertaking.

In Denmark, occupational health services have to give advice regarding the design of new production techniques, the modification of existing production processes and the acquisition of new personal protective equipment. They also participate in ergonomic design/planning with a view to humanizing the working environment and the production process.

This function in the area of working conditions means that the occupational health services have to be present in the undertaking to detect hazards and determine their possible effects before the health of workers has been impaired. Where undertakings have their own occupational health services, there is a permanent presence and continuous action is possible. Where there are group occupational health services, such services must be present for a sufficient amount of time to be able to effectively carry out their preventive work even if their presence in the undertaking is not permanent.

They should also be able to take action on working conditions as soon as symptoms of disease or danger signs appear so as to stop any deterioration in the working environment and protect workers against these dangers.

The preventive task also means that occupational health services have to carry out medical examinations. These medical examinations can be of different kinds : examinations on recruitment, annual or other periodic examinations, complete medical check-ups, examinations of persons returning to work after an absence due to illness, examinations as part of special monitoring, etc. These examinations are not obligatory in all Member States. In Germany workers are not compelled to undergo medical examinations. In Belgium medical examinations are compulsory only for the following :

- workers exposed to a risk of work-related disease due to specific causes or agents;

- workers holding safety posts;

- workers in direct contact with foodstuffs;

- handicapped persons;

- workers under 21.

Some members think that periodical medical examinations should be compulsory since they enable possible diseases or incapacity for work to be detected.

Other members are against such a compulsion since they consider that regular health checks can lead to a system of worker selection and thus to adaptation of the worker to the work rather than the other way round.

At all events, periodic examinations are justified only if they are organized as part of a preventive campaign. They cannot be the sole function of the occupational physician. They serve a useful purpose when they form a

back-up to the preventive role of occupational medicine aimed at detecting risks and hazards. This explains why in certain countries periodic examinations are confined to undertakings with special hazards. Periodic examinations also make it possible to continuously monitor the health of workers and take account of the phenomenon of "habituation" to hazards and difficult working conditions. Professional and medical secrecy has to be observed in connection with such periodic examinations and the exercise by specialists in occupational medicine of all their functions; this should guarantee the anonymity of the individuals concerned. Confidentiality must not, however, impede the circulation of information about the occurrence of work-related diseases for the purposes of epidemiological and statistical studies. But although the notification of various work-related diseases is compulsory in certain countries and cannot be impeded by medical secrecy, these same principles of confidentiality can still pose problems when it comes to learning about the causes of sickness and mortality for the purposes of epidemiological studies.

Occupational health services must have complete autonomy and independence in carrying out medical examinations. In view of the fact that prevention and the improvement of working conditions are the main functions of

occupational medicine, the aim of medical examinations cannot be to choose, on the basis of health criteria, the workers most likely to tolerate poor working conditions. Some members consider that such a screening, either at the recruitment stage or when the worker has started on his occupational activities, eventually leads to men having to adapt to work; this is at odds with the aim of occupational medicine, which is to improve working conditions to make them acceptable to all workers.

Other members, whilst rejecting the idea of selection in the strict sense of the word, consider that occupational health services must consider the aptitude of workers to carry out the tasks to be entrusted to them and must unearth any inaptitudes or ailments which might endanger the health of the worker in question when carrying out a given task.

The concept of long- as well as short-term prevention has led to occupational health services being given the task of collecting data, carrying out epidemiological investigations, and more generally conducting enquiries and research into working conditions.

It is essential to collect data and carry out investigations in order to determine the effects which working conditions have over a long period. This also enables specialists from different workplaces to compare experience and make use of the experience of others in order to develop their knowledge and so improve the quality of their own preventive action.

Effective prevention in the field of occupational medicine also presupposes an exchange of information not only between occupational physicians themselves but also between occupational physicians on the one hand, and all the specialists and bodies operating in the field of health hazard, and accident prevention, on the other.

The role and efficiency of occupational medicine also depend directly on the skills and specializations of those making up the services.

4. Organization of Occupational Medicine

The concept of the role of occupational medicine determines in many respects the organizational requirements of occupational health services so that the latter can effectively play their role.

The importance of the role of occupational medicine in health protection and industrial safety is such that all workers ought to be covered by occupational health services.

This is so in Belgium, France and Germany but not the case in other countries. In practice, however, temporary workers and domestic staff have not so far been covered by occupational health schemes in Belgium. In France agricultural workers are covered by specific provisions.

In Germany about 11 million of the 22 million workers in employment were actually covered at the end of 1981, with most of those not covered working in SMEs. In Denmark occupational health services are not obligatory in all branches of the economy and for all workers. (On 1 July 1982 368,000 workers were in fact covered). In the Netherlands occupational health services are only obligatory in undertakings employing more than 500 workers. In Ireland medical supervision at work has not been put on a permanent footing but is something decided on by the Ministry of Labour on a case-by-case basis and in the light of accident risks, the likelihood of occupational disease and health hazards. In Greece the law does not impose mandatory occupational health services. Nor are they compulsory in the United Kingdom. It should be added that in certain countries such as Italy, Ireland, Luxembourg and the United Kingdom occupational medicine either goes beyond the scope prescribed by the law or, in the absence of legal provisions, is available in a large number of big or medium-sized firms.

The organization of occupational medicine is generally geared to the size of the undertaking in question. The biggest undertakings generally have their own occupational health services whereas medium-sized and small undertakings are usually affiliated to group services covering several firms.

In France occupational health services can legally take the following forms :

- an occupational health service for an individual firm or establishment, where the occupational physician has to devote at least 169 hours per month to his duties;

- a group occupational health service, where the occupational physician does not need to devote more than 20 hours per month to his duties; if an inter-establishment health service can be set up between more than one establishment of the same enterprise, the physician must devote at least 20 hours per month to his duties.

Between these two limits the occupational health service can take the form - after a consultation of the Works Council - of (a) an individual firm's or individual establishment's health service, (b) an inter-establishment health service of the same firm, or (c) a group occupational health service.

In the other countries of the European Community occupational health services are generally organized along very similar lines.

Occupational medicine and the organization thereof are also geared to the importance of the risk (eg. : handling of toxic substances). Nevertheless, some high-risk sectors would not seem to have the occupational health services warranted by the seriousness of the risk (eg. : health services, agriculture, etc.).

Prevention in occupational medicine presupposes a regular presence at the workplace. It implies that occupational health specialists have the necessary time to carry out their preventive work at the workplace and also have the necessary equipment. In certain cases the legal requirements concerning time are negligible. In France the occupational physician has to be present a minimum of one hour a month per :

- 20 salaried staff
- 15 manual workers
- 10 wage-earners, including temporary workers subject to special supervision.

This minimum therefore varies between 3 and 6 minutes per month per worker. The law also specifies that the occupational physician must be able to devote a third of his working time to the working environment, i.e. the supervision of working conditions, the rest of the time being devoted to other activities (e.g. clinical work).

In Belgium the law stipulates that an undertaking must be visited by an occupational physician at least once a year.

The number of physicians attached to an occupational health service is determined by the requirement that each year an occupational physician must, in each undertaking or each establishment, devote an average of at least one hour of his professional time to each worker subject to compulsory medical examination and eight minutes to each worker not subject to compulsory medical examination.

Other national laws confirm the need to tackle the problem of working conditions, which implies the presence of a physician at the workplace. The provisions fail, however, to specify the minimum duration of this presence.

The obligation to be present at the workplace poses the question of occupational health service staff numbers. It would seem that the objectives laid down in the legislative provisions of certain countries have not been achieved in practice because of the inadequacy of the financial, technical and human resources made available to occupational medicine.

A Commission report on occupational medicine in the Member States (cf. Appendix) gives the following figures concerning occupational physicians.

COUNTRY	YEAR	FULL TIME OPs	PART TIME OPs
BELGIUM	1977	215	667
DENMARK	1978	5	95
GERMANY	1979	2,100	6,700
FRANCE	1978	2,297	3,229
ITALY	1977	2,500	ALTOGETHER
NL	1979	320	70
UK	1979	800	1,200

The complexity of the different types of preventive work encompassing all aspects of working conditions means that the occupational health services must have a multidisciplinary character and that the staff making up the service must have received an appropriate multidisciplinary training.

The term occupational medicine may therefore be somewhat misleading, giving the impression as it does that the service is confined to medical problems in the strict sense of the word.

However, the definition of the role of occupational medicine, and practical experience with the protection of health and safety at the workplace, indicate that occupational health services cannot be limited solely to medical matters and solely to physicians specialized in that field. The work of the occupational physician means sometimes involving the disciplines, and securing the contribution of, specialists in other fields.

Thus, for example, action in the field of work-station design requires ergonomic knowledge and skills. It must also be possible to call in safety specialists, psychologists and chemists, for example.

Occupational health thus involves the work of a team of specialists capable of tackling all aspects of working and production conditions, experienced in multidisciplinary action at the workplace and trained with this in mind. Within this multidisciplinary team all specialists must be on an equal footing.

In a certain number of cases national legislation makes provision for cooperation between physicians and technicians concerned with working conditions (notably safety specialists and safety departments) on the one hand, and other specialists (e.g. radiologists, biologists, physicists, chemists, toxicologists, etc.) on the other.

Such cooperation is not generally put on an official footing.

The work of occupational health services also needs to be coordinated with that of other bodies likewise responsible for health and safety at work (e.g. the factory inspectorate) particularly in respect of the coordination of methods of action.

Occupational health services also cooperate closely with those most directly affected by production methods and working conditions, viz. workers, and also employers, who are responsible for the organization of work and

production. Workers, whom it is the task of occupational medicine to protect, are the group most affected by working conditions, and their personal experiences and knowledge must be taken into consideration by occupational medicine.

Workers and their representatives are generally involved in the organization and running of occupational health services through the usual representative channels existing in undertakings. Depending on the country, this involvement may be through trade union delegations, staff delegates or works committees. Works hygiene and safety committees most frequently have a capital role to play here insofar as they have wide responsibilities for working conditions and would therefore seem to be the most capable of influencing occupational medicine and steering it towards the most appropriate preventive action.

Occupational health services are generally financed directly or indirectly by the undertakings themselves.

In many countries employers have sole responsibility for the appointment of occupational health specialists and do not have to consult workers' representatives.

In Belgium, however, the works' hygiene and safety committee or, failing that, the trade union delegation, is consulted before the group ocupational health service and the occupational physician are chosen.

Some members consider that the financing of occupational medicine by the employer should not jeopardize the autonomy of the occupational health services. Occupational health service staff should be able to perform their duties independently. The conditions governing their appointment, remuneration and dismissal must be such that they are not placed in a situation of dependence vis-à-vis the undertaking. This thinking is in accord with the ethical principles governing the medical and scientific professions involved in occupational health services. Competition between group medical services regarding the cost of their services should not be allowed to lead to a lower level of worker protection against work-related risks.

Some members consider, however, that the autonomy of the occupational physician can be taken for granted and therefore does not need to be explicitly catered for or guaranteed. It must, however, be strictly limited to medical activities proper.

5. The Role of the Authorities

In all EEC countries the authorities involve themselves in occupational medicine in a variety of ways. First of all they make sure that the legal provisions and regulations covering occupational medicine take account of changes in production and working conditions and can be adapted to the latest advances in the field of health and safety.

The authorities are further responsible for ensuring that legal provisions and regulations are implemented, whilst the professional associations of the various specializations making up the occupational health services are responsible for ensuring that occupational medicine specialists abide by the professional and ethical rules to which they are subject.

Public health authorities have a key role to play in monitoring the health of workers, particularly those workers who leave their occupations after having been exposed to health hazards at the workplace. Such health monitoring is necessary not only in the interests of the workers themselves but also for the purposes of acquiring a better knowledge of the long-term effects of occupational health hazards. Indeed, some work-related diseases manifest themselves only several years after exposure to harmful agents. This is the case with asbestosis and types of cancer associated with the workplace. Moreover the evolution of such diseases and the development of various types of occupational invalidity (e.g. work-related deafness) can be very slow and affect workers even if they change or terminate their jobs. The public health authorities themselves are in the best position to ensure the monitoring of the health of workers affected with a view to the best possible treatment and can make sure that the information resulting from medical analyses and the treatment of patients is passed on to occupational medicine specialists, thus enabling them to take more effective preventive action.

On a more general level the authorities must ensure coordination between the work of public health services and occupational health services.

The authorities must also ensure the organization of specialized training in occupational medicine. Although the occupational physician needs basic medical training like any other doctor, he also needs specialized training geared to work in a multidisciplinary team in an undertaking to improve working conditions.

This training must be adapted to changes in technologies, production methods and working conditions. It must be practical, geared to the working environment and prevention at the workplace, and regularly brought into line with the state of the art.

So far, occupational medicine has not been recognized as a specific discipline in the universities or professional training establishments of all EEC countries.

In Belgium, the practice of occupational medicine is reserved for those holding a special degree in occupational medicine. In Denmark the teaching of occupational medicine was only recognized as a specific discipline in 1982. In Italy the possession of a diploma in occupational medicine is not

required to work as an occupational physician in an undertaking. In Germany the title of specialist in occupational medicine is granted to doctors only after four years of specific, additional training.

In France the rules stipulate that the practice of occupational medicine is reserved for doctors holding a higher certificate of specialization (certificat d'études spécialisés) regardless of the sector.

The authorities have a similar task with regard to the training of other health and safety specialists and technicians.

The authorities also contribute to the promotion of research into occupational medicine. On a more general level they seek to improve working conditions and have the task of coordinating the activities of public health services and occupational health services.

They are also responsible for making occupational medicine part and parcel of the health services in general. Health at the workplace cannot in fact be treated in isolation from the organization, structures and operation of public health services.

6. Action to be taken at Community level

The existence of legislation on occupational medicine in most countries of the European Community makes it easier to adopt Community instruments in this field than in other areas concerned with working conditions.

The non-binding recommendations adopted by the Commission in the 1960s have paved the way for such action.

However, since the adoption of these recommendations, production techniques and methods - and consequently national legislation - have evolved.

Several arguments can be adduced to justify the adoption of a Community Directive on occupational medicine. Amongst them is the recognition that occupational medicine is in the public interest and the consequent conclusion that all Community workers should be covered by occupational health services as effectively as possible.

Despite efforts in this direction, total coverage has not yet come about. Some members consider that a Community Directive is the most appropriate way of achieving this objective. Other members express no views as to the form that a Community instrument on occupational medicine should take.

The geographical mobility of workers is on the increase because of the existence of the Community and also because the economic crisis is causing workers to look for employment further and further afield. Labour mobility is increasingly tending to transcend national borders. The convergence of national legislation in a number of areas would pave the way for improvements in continuous health care for workers and so make it possible to organize more effective prevention in all countries.

Likewise, the technologies used in all branches of industry are tending to be increasingly similar whatever the Member State. These new technologies, which imply changes in the organization of work, have effects on the physical and mental health and on the safety of workers. These effects have not always been studied in sufficient depth, so it would be desirable to exchange knowledge and give more uniformity to preventive action. The proliferation of new products is another reason for closer coordination of prevention, in which occupational medicine plays a key role.

Thus, in addition to the adoption of a Directive on occupational medicine, there should be better dissemination of information on work-related diseases, industrial accidents and methods of prevention in the fields of health and safety at the workplace, e.g. in the form of a data bank. Parallel efforts should also be made by the Community to improve and harmonize statistics on industrial accidents and work-related diseases. This presupposes Community standardization of the definitions of industrial accidents and work-related diseases.

Such harmonization could, as the Statistical Office of the European Communities proposes, be carried out in three stages :

- compilation of available national data on industrial accidents and work-related diseases;

- preparation of a standard form for the reporting of industrial accidents and work-related diseases;

- drawing up of harmonized Community statistics.

Alignment of training programmes and specialist diplomas in occupational medicine is also desirable.

In conclusion, the observations contained in the present Report argue the case for the adoption of a Community Directive on occupational medicine, with priority being given to the following principles :

- cover should be provided for all workers, including workers in SMEs and traditionally less protected sectors such as agriculture;

- top priority should be given to prevention;

- sufficient funds should be made available to carry out this preventive work;

- occupational health services should be present in undertakings themselves;

- occupational health services should be informed about the effects of products and production processes on health and safety;

- occupational health services should be consulted before new products or production methods are introduced and before changes are made in work organization;

- occupational medicine should be multidisciplinary in nature;

- occupational medicine should be independent and autonomous;

- there should be coordination between occupational health services and other bodies having responsibilities in the field of health and safety at work;

- workers' representatives should be informed and consulted on the organization and operation of occupational health services;

- the cost of occupational health services should be borne by the undertakings themselves;

- occupational medicine should become part and parcel of overall preventive policies;

- the training of specialists in occupational medicine should be geared to the tasks of occupational health services;

- the authorities should provide for continued monitoring of the health workers exposed to, or affected by, health hazards or specific risks;

- research in the area of occupational medicine and working conditions should be developed with the support of the authorities.

These various points have been expounded in greater detail in the earlier parts of this Report.

The Chairman
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Section for Social Questions

Jozef HOUTHUYS

The Rapporteur
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Bernard MOURGUES

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Roger LOUET

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OCCUPATIONAL MEDICINE IN THE EUROPEAN COMMUNITY (9 Member States)

EC (9)	FIELD OF APPLICATION			ORGANISATION	THE OCCUPATIONAL PHYSICIAN			
	special Law	± part of health and hygiene regulations or practices			Functions	Status	Training	Number Full . Part time • time
B	X		- all wage-earners and employers	individual or group services (employer) (association: administrative board) - surveillance of sanitation, hazards, protection against harmful substances, job adaptation, fatigue, refreshments, accomodation; - first aid & emergency treatment, medical examinations and vaccinations	- on the spot treatment - monitors wage-earners' health aptitudes and adaptation to work - contacts with health and safety committees - submits reports on hazards and occupational diseases - compiles wage-earners' medical records	- employment contract with the employer or with the administrative board of the group medical service after approval by the Works Safety and Health Committee or the Joint Committee of the group occupational health service with regard to both appointment and dismissal, - or self-employed contract, - technical and ethical independence vis-à-vis the employer and workers guaranteed by Law	- basic qualification - 1-2 years further training - in-service training	1977 215 : 667
DK	X		- not compulsory in all branches of activity	- generally not a highly developed structure	no specific definition; tasks in practice include: - prevention of accidents & work-related diseases (examinations, check-ups, monitoring, etc.) - first aid & emergency treatment, medical examinations & vaccinations	- no strict contract conditions - financed by the employer	---	1978 5 : 95
D	X		- compulsory in most undertakings (very complex definitions)	- no statutory organisational form for the health surveillance of workers - organisation ensured by a physician or by a joint occupational health centre (group scheme: association, insitutions, or accident insurance funds) - an occupational safety committee must be set up by the employer	- on the spot treatment - monitors occupational health and safety, and preventive measures - assists and advises employer - informs workers (works council) - medical check-ups (under official authorization or from accident insurance fund) - collaborates with occupational safety committee	- normally a salaried employee - directly subordinate to the manager of the undertaking or plant - appointment, dismissal and definition of specific responsibilities must also be referred to the Works Council	- basic qualification - further 2 years training - 4 years specialist training	1979 2 100 : 6 700

EC (9)	FIELD OF APPLICATION(*)			ORGANISATION	THE OCCUPATIONAL PHYSICIAN			
	specific Law	part of health and hygiene regulations or practices			Functions	Status	Training	Number Full time : Part time
F	X		- all employers and wage-earners - agricultural sector	- individual or group services - occupational health services for the agricultural community exist in all départements (obligatory for farm workers, optional for farmers)	- preventive measures - factory inspection - advises employer, departmental heads, works committee, staff delegates, the hygiene & safety committee and wage-earners - first aid	- employment contract with employer (except in agriculture) - appointment and dismissal subject to approval of works or plant committee	- basic qualification - 2 years further training - in-service training	1978 2 297 : 3 229
IRL		X	- majority of undertakings with 500 or more employees	- larger undertakings: medical service - some smaller undertakings: one physician - group services (about 21 in existence)	- no statutory definition, but normally responsible for emergency treatment and prevention	- the Irish Society of Occupational Medicine makes recommendations on rates, generally accepted by employers	- basic qualification - courses - in-service training (there is only one specialized centre for occupational medicine in Ireland)	--
I		X	- in practice nearly all large and medium-sized undertakings	- individual or group services (employers or ENPI/National Health Service)	- emergency treatment		- basic qualification - some specialised courses ± 3 years	1977 2 500 in total
L		X	- in practice all major undertakings & some SMEs	- individual, with no state authorization or supervision - financed by the employer	- emergency treatment - prevention (examinations, vaccinations & inspections	- individual contracts - staff representatives play no role in recruitment or dismissal	- there is no medical school in Luxembourg for training occupational physicians	--
NL	X		- by law for all undertakings with more than 750 employees (soon to be 500)	- individual or group services (employer) (non-profit) - Occupational Health Council for authorization, appointments, servicing & monitoring	- emergency treatment - prevention (examinations, monitoring, etc.)	- appointments and dismissals under the authorization of the National Occupational Health Council	- basic qualification - specialized training	1979 320 : 70

EC (9)	FIELD OF APPLICATION(*)			ORGANISATION	THE OCCUPATIONAL PHYSICIAN			
	specific Law	+ part of health and hygiene regulations or practices			Functions	Status	Training	Number Full . Part time . time
UK		X	- not compulsory	- individual or group services	- emergency treatment - preliminary treatment of serious work-related diseases - prevention (examination on recruitment, inspections, advice)	- individual contract with the employer	- basic qualification - specialized training varying from 6 months to 2 years	1979 800 : 1 200

Appendix 2

Occupational injuries [1]
Lésions professionnelles
Lesiones profesionales

Persons injured and workdays lost
Personnes accidentées et journées de travail perdues
Personas accidentadas y días de trabajo perdidos

(A) Number of persons injured (thousands): — Personnes accidentées (milliers): — Personas accidentadas (milliares):
1. – of whom fatally injured — – blessées mortellement — – casos mortales
2. – of whom with lost workdays — – ayant perdu des journées de travail — – con pérdida de días de trabajo
(B) Number of workdays lost (thousands) — Journées de travail perdues (milliers) — Días de trabajo perdidos (milliares)

País – Tipo	Total	Industrie (grandes divisiones) [a] 1 Agricultura, caza, silvicultura y pesca	2 Minas, canteras	3 Industrias manufactureras	4 Electricidad, gas, agua	5 Construcción	6 Comercio, restaurantes y hoteles	7 Transportes, almacenaje, comunicaciones	8 Bancos, seguros, bienes inm., serv. para empresas	9 Servicios comunales, sociales y personales	0 Actividades no bien especificadas
Denmark											
1978											
(A)	31.252	0.921	0.063	16.502	0.553	3.258	1.589	2.965	0.183	5.228	
1.	0.093	0.019	0.001	0.028	0.002	0.017	0.006	0.011	-	0.009	
1979											
(A)	34.295	0.910	0.050	17.310	0.597	3.454	1.889	3.959	0.262	5.864	
1.	0.099	0.024	-	0.022	0.002	0.015	0.013	0.010	0.001	0.012	
1980											
(A)	33.883	0.952	0.029	16.742	0.592	3.484	1.847	3.619	0.298	6.320	
1.	0.075	0.018	-	0.015	-	0.014	0.010	0.010	0.002	0.006	
1981											
(A)	34.055	0.987	0.048	15.591	0.550	3.622	1.842	4.006	0.335	7.074	
1.	0.086	0.031	0.001	0.012	0.001	0.016	0.008	0.008	0.002	0.007	
France											
1978											
(a)	2 039.05	.	.	.	.	.	.	.	.	.	.
1	1.567	.	.	0.510	0.004	0.500	0.124	0.225	.	0.204	.
2	1 014.05	.	.	526.44	3.52	250.73	54.95	52.71	.	125.70	.
(b)	29 086.1	.	.	13 271.1	95.7	8 676.1	1 549.0	1 876.4	.	3 617.9	.
1979											
(a)	2 025.32	.	.	.	.	.	.	.	.	.	.
1	1.484	.	.	0.440	0.006	0.522	0.111	0.218	.	0.193	.
2	979.58	.	.	503.89	3.54	237.53	53.78	53.84	.	126.99	.
(b)	27 585.2	.	.	12 376.2	92.2	8 136.6	1 513.4	1 859.6	.	3 607.1	.
1980											
(a)	2 008.41	.	.	.	.	.	.	.	.	.	.
1	1.423	.	.	0.433	0.006	0.468	0.089	0.234	.	0.193	.
2	971.30	.	.	486.90	3.51	239.41	54.28	52.71	.	135.50	.
(b)	27 268.9	.	.	11 948.4	88.3	8 106.1	1 502.4	1 824.2	.	3 797.4	.
1981											
(a)	...	.	.	.	.	.	.	.	.	.	.
1	1.423	.	.	0.458	0.004	0.445	0.108	0.215	.	0.193	.
2	923.06	.	.	449.03	3.47	231.21	52.83	51.90	.	134.62	.
(b)	26 821.4	.	.	11 428.5	98.1	8 089.1	1 482.9	1 831.1	.	3 891.7	.
Germany Fed.Rep.of											
1978											
(a)	2 011.80	205.07	53.70	909.02	.	299.35	.	.	.	.	544.64
1	4.182	0.747	0.197	1.342	.	0.619	.	.	.	.	1.277
1979											
(A)	2 135.28	207.46	53.16	965.16	.	315.32	.	.	.	.	594.18
1.	4.083	0.667	0.184	1.322	.	0.688	.	.	.	.	1.222
1980											
(A)	2 112.81	207.14	52.87	948.77	.	324.96	.	.	.	.	579.06
1.	3.794	0.641	0.193	1.246	.	0.641	.	.	.	.	1.073
1981											
(A)	1 960,78	198.25	51.37	856.47	.	297.23	.	.	.	.	557.46
1.	3.638	0.597	0.153	1.188	.	0.564	.	.	.	.	1.136

1. Source: Yearbook of Labour Statistics, 1983, ILO, Geneva

Occupational injuries
Lésions professionnelles
Lesiones profesionales

(A) Number of persons injured (thousands):
1. - of whom fatally injured
2. - of whom with lost workdays
(B) Number of workdays lost (thousands)

Personnes accidentées (milliers):
- blessées mortellement
- ayant perdu des journées de travail
Journées de travail perdues (milliers)

Personas accidentadas (millares):
- casos mortales
- con pérdida de días de trabajo
Días de trabajo perdidos (millares)

A Persons injured and workdays lost
Personnes accidentées et journées de travail perdues
Personas accidentadas y días de trabajo perdidos

Pays Tipo	Total	Industrie (grandes divisions) [a] 1 Agriculture, chasse, sylviculture et pêche	2 Mines, carrières	3 Industries manufacturières	4 Electricité, gaz, eau	5 Construction	6 Commerce, restaurants et hôtels	7 Transports, entreposage, communications	8 Banques, assurances, biens immobiliers, services aux entreprises	9 Services collectifs, sociaux et personnels	0 Activités mal définies
Ireland											
1978											
(A)	4.073	...	0.013	3.496	0.078	0.487	...	...	...	...	
1.	0.026	...	0.004	0.013	-	0.009	...	...	...	...	
1979											
(A)	3.633	...	0.018	3.129	0.087	0.399	...	...	...	...	
1.	0.032	...	0.002	0.021	0.001	0.008	...	...	...	...	
(A)	4.330	...	0.017	3.687	0.061	0.565	...	...	...	...	
1.	0.030	...	0.001	0.010	0.002	0.017	...	...	...	...	
1981											
(A)	3.865	...	0.027	3.191	0.077	0.570	...	...	...	...	
1.	0.021	...	0.001	0.014	0.001	0.005	...	...	...	...	
1982											
(A)	4.671	...	0.028	3.807	0.073	0.763	...	...	...	...	
1.	0.016	...	0.004	0.005	...	0.007	...	...	...	...	
Netherlands											
1978											
(A)	87.068	2.875	0.113	37.446	0.043	23.349	12.464	6.533	2.181	0.848	1.216
1.	0.082	0.001	-	0.024	-	0.032	0.008	0.016	0.001	-	-
2.	86.986	2.874	0.113	37.422	0.043	23.317	12.456	6.517	2.180	0.848	1.216
1979											
(A)	87.297	3.287	0.147	35.305	0.033	22.507	13.143	6.755	2.667	1.982	1.471
1.	0.073	0.003	-	0.027	-	0.021	0.007	0.012	0.002	-	0.001
2.	87.224	3.284	0.147	35.278	0.033	22.486	13.136	6.743	2.665	1.982	1.470
1980											
(A)	85.820	3.389	0.180	35.086	0.027	22.356	13.254	6.536	2.667	2.325	
1.	0.088	0.002	-	0.020	-	0.033	0.007	0.017	0.005	0.004	
2.	85.732	3.387	0.180	35.066	0.027	22.323	13.247	6.519	2.662	2.321	
1981											
(A)	75.515	2.900	0.127	31.061	0.025	19.767	11.780	5.261	2.342	2.252	
1.	0.062	0.001	-	0.012	-	0.028	0.008	0.012	0.001	-	
2.	75.453	2.899	0.127	31.049	0.025	19.739	11.772	5.249	2.341	2.252	
United Kingdom											
1978 [b]											
2.	597.800	10.350	74.600	247.600	12.300	68.150	51.150	41.800	3.500	55.400	32.950
(B)	15 233.4	273.5	1 942.4	6 122.5	288.9	1 801.5	1 175.9	1 180.1	81.8	1 487.6	879.0
1979 [b]											
1.	0.691	0.057	0.079	0.180	0.011	0.129	0.043	0.129	0.010	0.032	0.021
2.	581.0	...	...	...	...	...	...	...	...	...	
(B)	...	...	...	...	...	...	...	...	...	...	
1980 [b]											
1.	0.628	0.040	0.073	0.151	0.009	0.131	0.040	0 121	0.008	0.037	0.018
2.	509.000	13.000	58.000	197.000	11.000	54.000	43.000	39.000	4.000	57.000	33.000
(B)	12 771.5	315.1	1 342.5	4 742.4	259.0	1 396.8	942.9	1 099.9	119.3	1 622.9	930.7
1981 [b]											
1.	0.502	0.030	0.056	0.128	0.012	0.081	0.033	0.100	0.010	0.041	0.011
2.	421.000	8.000	48.000	148.000	10.000	48.000	43.000	30.000	3.000	55.000	27.000
(B)	10 586.2	227.8	1 206.8	3 704.9	266.9	1 238.0	938.2	871.5	104.1	1 410.3	617.6

Social protection [1] — Protection sociale — Sociale bescherming

Occupational accidents in the iron and steel industry
Frequency rates for accidents

Accidents de travail dans la sidérurgie
Taux de fréquence des accidents

Arbeidsongevallen in de ijzer- en staalindustrie
Frequentie der arbeidsongevallen

(per Mio hrs/par Mio h/per Mio uren)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1981/1977 %	1981/1980 %
3.5.13. Fatal accidents — Accidents mortels — Ongevallen met dodelijke afloop												
Belgique/België	0,15	0,30	0,17	0,15	0,10	0,10	0,11	0,12	0,11	0,13	125	121
Danmark	:	:	0,33	0,24	0	0	0	0	0	0	100	100
BR Deutschland	0,11	0,18	0,13	0,13	0,14	0,08	0,06	0,12	0,08	0,09	105	102
Ἑλλάδα	:	:	:	:	:	:	:	:	:	:	:	:
France	0,13	0,09	0,13	0,13	0,10	0,07	0,06	0,05	0,03	0,06	95	185
Ireland	:	:	0	0	0	0	0	0	:	:	:	:
Italia	0,12	0,8	0,14	0,06	0,06	0,08	0,09	0,06	0,09	0,04	52	45
Luxembourg	0,09	0,14	0,35	0,20	0,17	0,06	0,17	0,29	0,08	0,13	225	171
Nederland	0,17	0,08	0,08	0,04	0,12	0	0,03	0,09	0,06	:	:	:
United Kingdom	:	0,15	0,08	0,10	0,04	0,05	0,04	0,05	:	0,06	108	:
EUR 10*	:	:	0,13	0,12	0,11	0,07	0,06	0,08	:	:	:	:
España	:	:	:	:	:	:	:	:	:	:	:	:
Portugal	:	:	:	:	:	:	:	:	:	:	:	:
Sverige	0,10	0,04	0,06	0,08	0,06	0,05	0,04	0,01	0,01	:	:	100
USA	:	:	:	:	:	:	:	:	:	:	:	:
Nippon (Japan)	:	:	:	:	:	:	:	:	:	:	:	:
3.5.14. Non-fatal accidents (> 3 days' absence) Establishments with 4 000 – 7 999 employees — Accidents non mortels (> 3 jours d'absence) Établissements occupant 4 000 – 7 999 salariés — Ongevallen zonder dodelijke afloop (onderbreking van > 3 dagen) Vestigingen met 4 000 – 7 999 werknemers												
Belgique/België	93	87	90	76	80	84	76	91	74	66	79	89
Danmark	:	:	:	:	:	—	—	—	—	—	—	—
BR Deutschland	86	98	93	80	84	59	54	51	58	46	78	80
Ἑλλάδα	:	:	:	:	:	:	:	:	:	:	:	:
France	57	61	72	81	85	55	61	53	:	40	72	:
Ireland	:	:	:	:	:	—	—	—	—	—	—	—
Italia	65	73	78	90	90	70	74	83	75	76	110	102
Luxembourg	82	79	79	68	75	56	58	62	61	50	90	82
Nederland	—	—	—	—	—	—	—	—	—	:	—	—
United Kingdom	:	:	:	:	:	19	14	15	:	15	78	:
EUR 10*	:	:	:	:	:	55	55	61	:	:	:	:
España	:	:	:	:	:	:	:	:	:	:	:	:
Portugal	:	:	:	:	:	:	:	:	:	:	:	:
Sverige	:	:	:	:	:	:	:	20	18	:	:	90
USA	:	:	:	:	:	:	:	:	:	:	:	:
Nippon (Japan)	:	:	:	:	:	:	:	:	:	:	:	:
3.5.15. Non-fatal accidents (> 3 days'absence) All establishments — Accidents non mortels (> 3 jours d'absence) Tous établissements — Ongevallen zonder dodelijke afloop (onderbreking van > 3 dagen) Alle vestigingen												
Belgique/België	82	85	86	74	81	82	75	85	77	72	88	94
Danmark	:	:	63	65	59	44	51	54	53	45	104	85
BR Deutschland	90	96	90	79	80	54	54	56	58	48	88	83
Ἑλλάδα	:	:	:	:	:	:	:	:	:	:	:	:
France	68	71	77	80	76	49	51	50	45	39	79	88
Ireland	:	:	45	39	49	33	27	34	:	:	:	:
Italia	95	102	105	107	104	97	96	97	89	84	87	95
Luxembourg	79	75	79	68	73	51	54	60	60	47	91	78
Nederland	40	44	38	34	32	21	25	29	31	:	:	:
United Kingdom	:	24	24	28	29	19	18	19	:	16	87	:
EUR 10*	:	:	72	67	67	49	49	51	:	:	:	:
España	:	:	:	:	:	:	:	:	:	:	:	:
Portugal	:	:	:	:	:	:	:	:	:	:	:	:
Sverige	45	46	53	54	47	45	51	23	22	:	:	96
USA	:	:	:	:	:	:	:	:	:	:	:	:
Nippon (Japan)	:	:	:	:	:	:	:	:	:	:	:	:

SOURCE : EUROSTAT

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Social protection — Protection sociale — Sociale bescherming

Occupational accidents in the iron and steel industry
Days lost per non-fatal accident (at least 1 day's absence)

Accidents de travail dans la sidérurgie
Journées perdues par accident non-mortel (1 jour d'arrêt au moins)

Arbeidsongevallen in de ijzer- en staalindustrie
Dagen verloren per ongeval zonder dodelijke afloop (onderbreking van ten minste 1 dag)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1981/1977	1981/1980
3.5.16. Steelworks — Aciéries — Staalfabrieken											%	
Belgique/België	12,7	11,9	12,2	14,4	12,8	14,8	13,4	14,8	15,9	13,6	92	86
Danmark			16,2	13,3	18,4	12,8	14,9	13,8	23,3	10,1	79	44
BR Deutschland	18,6	16,8	17,2	18,4	18,1	18,3	19,2	18,4	18,6	17,4	95	93
Ἑλλάδα												
France	28,4	28,0	26,3	27,6	25,8	27,8	27,4	28,1	34	37,1	133	109
Ireland			18,8	14,9	33,2	32,2	19,2	43,0				
Italia	15,5	16,1	16,4	16,1	14,7	13,4	13,9	13,4	12,8	14,9	111	116
Luxembourg	22,2	20,6	21,4	24,8	21,0	19,4	24,4	26,3	25,2	26,3	135	104
Nederland	22,2	23,6	21,9	28,3	23,0	22,3	21,2	22,1	23,3			
United Kingdom						19,2	25,9	25,8	28,1	26,3	137	93
EUR 10*	:	:	:	:	:	18	18	18	18	:	:	:
España												
Portugal												
Sverige												
USA												
Nippon (Japan)												
3.5.17. Rolling mills etc. [1] — Laminoirs etc. [1] — Walserijen enz. [1]												
Belgique/België	13,3	13,2	13,7	14,9	16,0	16,3	15,7	15,0	16,6	14,1	87	85
Danmark			18,6	19,8	17,9	24,9	19,9	13,7	19,2	21,7	87	113
BR Deutschland	17,4	16,3	17,5	17,9	17,2	16,6	18,6	17,5	18,7	18,1	109	97
Ἑλλάδα												
France	27,8	27,5	26,0	27,0	25,2	26,4	28,0	28,1	34	33,6	127	100
Ireland			44,3	25,0	26,2	44,7	29,5	38,0				
Italia	18,2	16,8	17,0	15,8	14,7	13,8	14,0	14,1	14,1	15,9	115	112
Luxembourg	24,0	23,0	21,5	23,8	23,9	22,0	22,2	26,9	22,5	25,3	115	113
Nederland	22,3	21,8	21,2	23,4	27,7	20,3	27,5	22,8	24			
United Kingdom						23,1	22,1	23,2	23,5	28,7	124	122
EUR 10*	:	:	:	:	:	18	19	19	19	:	:	:
España												
Portugal												
Sverige												
USA												
Nippon (Japan)												
3.5.18. All iron and steel activity — Ensemble de l'activité sidérurgique — Gehele ijzer- en staalindustrie												
Belgique/België	13,1	12,9	13,2	14,2	14,5	15,0	14,2	14,4	15,7	14,2	95	90
Danmark			17,2	14,6	16,7	19,4	16,6	13,8	19,4	16,6	86	85
BR Deutschland	17,4	16,4	16,8	17,6	17,1	16,9	17,8	17,5	17,6	17,6	104	100
Ἑλλάδα												
France	27,6	27,4	26,4	26,9	25,2	27,2	27,1	27,9	33	34,7	128	105
Ireland			34,5	19,2	30,8	42,3	25,9	36,4				
Italia	16,6	16,0	16,0	15,4	14,3	12,9	13,2	13,2	12,8	14,6	113	114
Luxembourg	22,2	22,3	22,2	22,8	22,2	22,1	21,8	24,9	23,3	25,1	114	108
Nederland	23,3	22,6	24,3	25,7	24,8	22,1	24,7	23,8	24,0			
United Kingdom						25,3	24,7	25,5	25,3	29,8	118	118
EUR 10*	:	:	:	:	:	18	18	19	19	:	:	:
España												
Portugal												
Sverige [2]	20,9	21,0	21,5	20,1	22,5	20,8	20,3	19	20			105
USA												
Nippon (Japan)												

[1] The department *rolling mills* also include tinning, lead coating and galvanizing workshops.
[2] Ironworks and steelworks (incl. rolling mills etc.)
* EUR 9

[1] Le service *laminoirs* comprend également les ateliers d'étamage, galvanisation et plombage.
[2] Sidérurgie (y compris laminoirs etc.)

[1] De bedrijfsafdeling *walserijen* omvat tevens vertinningen, verlodings- en galvanisatiewerkplaatsen.
[2] IJzer- en staalindustrie (incl. walserijen enz.)