EUROPEAN FORUM

of the Insurance against Accidents at Work and Occupational Diseases

Enquiry Report

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Eurogip - 24/E

Asbestos-related occupational diseases in Europe

Recognition - Figures - Specific systems

EUROPEAN FORUM

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EUROGIP

Understanding occupational risks in Europe

Foreword

Due to the current scale of the phenomenon of asbestos-related diseases, the European Forum of the Insurance against Accidents at Work and Occupational Diseases[1] wanted to have a review of this subject drawn up from an exclusively insurance-oriented viewpoint.
This overview therefore deals in succession with the aspects of recognition of diseases, statistics, specific monitoring and compensation systems, estimates.
It covers 13 European countries: Germany, Austria, Belgium, Finland, Denmark, Spain, France, Italy, Norway, the Netherlands, Portugal, Sweden and Switzerland.

The present survey was carried out by the "Occupational Diseases" working group of the European Forum as a follow-on from its preceding work[2]. This group is formed of legal experts and doctors belonging to the various national insurance organisations.
Christine Kieffer, who is in charge of studies at Eurogip, coordinated the work of this group and drew up this report, except for Chapter IV on the estimate of the mortality due to pleural mesothelioma in Europe written by Dr Gert van der Laan, an occupational medicine specialist at the Dutch Centre for Occupational Diseases - Amsterdam University Medical Centre.

The following persons took part in the study:
Germany / Hauptverband der gewerblichen Berufsgenossenschaften (HVBG) - Andreas Kranig - Heinz Otten
Austria / Allgemeine Unfallversicherungsanstalt (AUVA) - Peter Pils
Belgium / Fonds des Maladies Professionnelles (FMP) - Patrick Strauss
Denmark / Arbejdsskadestyrelsen - Lars Hog Jensen
Spain / Asociación de mutuas de accidentes de trabajo (AMAT) - Carmen Escalante - Javier Trallero Vilar
Finland / Tapaturmavakuutuslaitosten Liitto (TVL) - Kirsi Pohjolainen
France / Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés (CNAMTS) - Andrée Girard - Didier Laporte
Italy / Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (INAIL) - Daniela Germani - Roberto Pianigiani
Norway / Trygdeetaten - Jorn Ingebrigtsen
Netherlands / Nederlands Centrum voor Beroepsziekten (NCvB) - Gert van der Laan
Portugal / Centro Nacional Protecçao contra os Riscos Profissionais (CNPRP) - Fatima Ventura
Sweden / Riksförsäkringsverket (RFV) - Monica Svanholm
Switzerland / Schweizerische Unfallversicherungsanstalt (SUVA) - Rodolphe Wipf

1 Founded in June 1992, the European Forum of the insurance against Accidents at Work and Occupational Diseases has set itself the objective of promoting the concept of a specific insurance against occupational injuries. At the end of 2005, 16 countries - and 20 organisations - are represented in it. To know more: www.europeanforum.org

2 To date, seven reports have been published on occupational diseases in Europe; the most recent (February 2004) is entitled "Work-related mental disorders: what recognition in Europe?" More information on the Eurogip website: www.eurogip.fr

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Introduction

Definition and properties of the material

The term asbestos covers a range of natural mineral fibres which can be classified in two groups: serpentines (chrysotile or white asbestos) and amphiboles (crocidolite or blue asbestos, amosite or brown asbestos, tremolite and anthophyllite). Most of the chrysotile mines are opencast, whereas the amphibolde mines generally involve underground mining methods which generate more dust.

Asbestos has exceptional thermal insulation, fire retardant and sound insulation properties. Known since 2000 BC, this material developed with the industrial revolution. It was very widely used in Europe throughout the 20th century, especially from the 1930s-1940s, reaching its peak in the 1950s to 1970s.

Due to the physical and chemical qualities of asbestos, and its low cost, there were very numerous industrial applications (more than 3000 have been counted): textiles, insulating materials, fibrocement building materials, shipbuilding industry, railways, electrical equipment, brake linings, etc.

Table 1: Imports (+ production) of asbestos in Europe from 1950 to 1990 in metric tons

Country	1950	1960	1970	1980	1990
GDR	13,858	35,000	52,015	74,400	15,692
GFR	80,000	132,634	175,612	392,978	
Austria	3,496	12,767	34,155	20,241	6,167
Belgium & Lux.	21,856	53,990	54,839	47,880	26,514
Denmark	9,986	17,440	28,633	13,713	800
Spain	4,384 (+ 42)	14,453 (+ 4)	77,677	66,944	39,609
Finland	988 (+ 10,949)	4 446 (+ 9,556)	7,744 (+ 13,626)	5,040	-
France	33,560 (+ 7,456)	68,592 (+ 25,583)	151,848 (+ 710)	127,123	63,672
Greece	178 (+ 30)	48	17,811	14,180	2,299 (+ 65,993)
Italy	6,265 (+21,434)	29,607 (+ 51,123)	62,402 (+118, 618)	86,550 (+ 157,794)	63,438 (+ 3,862)
Ireland	-	-	-	8,413	5,533
Netherlands	6,935	21,725	20,063	19,042	6,252
Norway	2,676	6,918	7,982	103	-
United Kingdom	111,261	170,893	154,636	94,640	16,022
Sweden	10,246	17,107	18,830	1,195	595
Switzerland	4,298	8,695	17,721	21,029	1,341

Source: Worldwide Asbestos Supply and Consumption Trends from 1900 to 2000, Robert L. Virta, U.S. Geological Survey, Open-File Report 03-83

Discovery of the harmfulness of asbestos dust

From the start of the 20th century, suspicion was expressed regarding the chronic health risks caused by asbestos.

In 1898, the annual report of the chief factories inspector in the United Kingdom mentioned its possible harmfulness, after observing cases of pulmonary fibrosis in textile workers; documents of a similar kind were written by labour inspectors in the United Kingdom, in other European countries and Canada.

In the mid-20th century, it was the carcinogenic properties of asbestos that were established scientifically, even though the first observations of lung cancer associated with asbestosis date back to the 1930s (asbestos would be classified as a definite carcinogenic by the International Centre for Cancer Research in 1976).

The relationship between asbestos exposure and mesothelioma (cancer of the pleura) was identified in the early 1960s in a group of workers from a mining region of South Africa. This disease would be paid special attention by scientists, because it now represents the main pathological symptom in workers exposed to asbestos; during the following 15 years, international reports (European, American and Australian) and case-control studies carried out in the United Kingdom, in Italy, the Netherlands, Sweden, the United States and Canada confirmed the job-related origin of mesothelioma.

Regulations and prohibitions concerning the use of asbestos

At the Community level, regulations began to be issued in the mid-70's concerning the use and sale of asbestos, and the occupational health aspect: five of the six asbestos fibres are prohibited by framework directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations; only the use of chrysotile or white asbestos remains authorised, except for certain products. But it was directive 83/477/EEC (amended subsequently) which is the benchmark in the area of "protection of workers against risks to their health, arising or likely to arise from exposure to asbestos at work". This text enacts preventive measures such as the obligation to asses the risk of exposure, the prohibition of limpet spraying, the setting of limit exposure values, the obligation of informing and providing medical monitoring for exposed workers, the implementation of special measures designed for workers taking part in demolition and asbestos removal work, etc.

At the same time, in the 1970s most of the European countries took the first large-scale measures aimed at controlling the use of asbestos.

The prohibition of asbestos was introduced in the early 1980s by the earliest European countries.

Table 2: General ban on asbestos use

Date	Country
1984	Norway
1986	Denmark[3] and Sweden
1989	Switzerland
1990	Austria
1991	Netherlands
1992	Finland and Italy
1993	Germany
1996	France
1998	Belgium
1999	United Kingdom
2000	Ireland
2002	Spain and Luxembourg
2005	Greece and Portugal

By prohibition, we do not mean complete prohibition, but a general prohibition of the use of asbestos (including chrysotile), which in most countries includes a few exceptions for certain temporarily necessary uses. These waivers (brake linings, seals, etc.), which are permitted on condition that there exist no less dangerous substitute product and that it is possible to prevent the release of dust, concern few people in practice.

3 Denmark had already banned asbestos use as from 1980, except for asbestos-cement products.

Today

Pursuant to directive 1999/77/EC[4], all asbestos fibres are prohibited[5] throughout the European Union since 1st January 2005.

However, the issue of asbestos in relation to worker health remains relevant for several reasons.

On the one hand, some categories of workers are still exposed in Europe today. This exposure is mainly within the framework of demolition work or asbestos removal work concerning buildings and machinery. Building finishing workers are also concerned, because several trades (plumbers, heating specialists, electricians, painters, carpenters, etc.) have to take part in maintenance, improvement and renovation operations on or in the vicinity of materials containing asbestos.

Moreover, numerous workers exposed to this material in the past could see an asbestos-related disease appear over the coming years, because the specific feature of these diseases is their very long latency period[6] (up to 40 years for mesothelioma).

Finally, many countries continue to use asbestos: about 2 million tons of asbestos are still produced each year in the rest of the world. That is why, during the European conference in Dresden in 2003, organised by the Senior Labour Inspectorate Committee of the European Commission, an appeal was made for complete prohibition throughout the whole world, and a statement on asbestos voted by the International Social Security Association in Beijing on 16 September 2004 exhorted "all countries to prohibit as soon as possible the production, sale and use of all types of asbestos and products containing asbestos".

4 Commission directive of 26 July 1999 enacting the sixth adaptation to technical progress (asbestos) of Annex I to the 76/769/EEC directive of the Council on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations

5 Only one product containing chrysotile asbestos (the diaphragms of existing electrolytic cells) is exempted from this total prohibition until 1st January 2008.

6 Time between first exposure and clinical manifestation of the pathology

PART 1

Recognition of asbestos-related diseases

A - Asbestos-related pathologies

The pathologies described below are those for which the causal link with an exposure to asbestos dust is well established or generally admitted.

Asbestosis is the name given to the type of pulmonary fibrosis caused by the inhalation of asbestos fibres. The risk of asbestosis and its seriousness depend on the level and length of exposure. The course of this disease is variable: in over half of the cases, the medical condition remains stable, but it can progress toward respiratory failure. Every case of asbestosis involves an increased risk of lung cancer.

Lung cancer can be asbestos-related although it is caused predominantly by smoking. Scientists estimate that in about 10% of the lung cancer cases, asbestos is the cause of the disease. It is also estimated that the number of asbestos-related lung cancer cases is about the same as the number of mesothelioma cases. Since the combination of smoking and asbestos exposure has a multiplier effect on the development of lung cancer, the individual assessment of cases is complex.

Mesothelioma is a rare malignant tumour that usually develops on the pleura (membrane surrounding the lungs). It is caused almost exclusively by prior exposure to asbestos. Such exposure may have occurred several dozen years before the diagnosis and may have been of low level. It can happen that mesotheliomas appear in areas other than the pleura: the peritoneum (which surrounds the viscera) or the pericardium (which surrounds the heart).

Pleural plaques are localised fibrosis regions on the pleura. Considered as an asbestos "exposure marker'', they are generally of no consequence, but in some cases they result in pains or even a slight reduction in respiratory capacity. They don’t degenerate into cancerous tissue.

Although the main diseases caused by the inhalation of asbestos dust are now well known, some types of **cancers other** than mesothelioma and lung cancer are also suspected of being caused by this material. But there is no scientific consensus in Europe regarding the existence of a causal relationship with asbestos exposure (see Table 4).

B - The way of recognition

In almost all European countries, there are two procedures for recognition of the job-related nature of a disease.

All countries have a national list of occupational diseases, which confers a more or less strong presumption of occupational imputability. The list greatly facilitates the recognition procedure, because victims do not have to demonstrate the causal link if their disease and/or the harmful agent are recorded on the list. However, since the Swedish list concerns only infectious diseases, the victims, must generally in Sweden, provide evidence of the link between the disease from which they suffer and their occupation.

Moreover, with the exception of Spain, all the countries taking part in the study have a complementary system of recognition for the diseases not recorded on the list. The proof of exposure to the risk and of the causal link must in this case be provided entirely by the victim.

Before examining the individual position of each country, it should be specified that the European list of occupational diseases (Commission recommendation 2003/670/EC of 19 September 2003) identifies asbestosis, mesothelioma and bronchial cancer as complications of asbestosis. In Appendix 2, i.e. in the "complementary list of diseases for which a work-related origin is suspected, which should be reported and whose inclusion in Appendix 1 to the European list could be considered in the future" appears cancer of the larynx following the inhalation of asbestos dust.

Table 3: Way of recognising asbestos-related diseases and date of their integration on the national lists of occupational diseases

The table below describes for each of the four main asbestos-related diseases the procedure for recognition of its job-related nature; when the disease is recorded on the national list of occupational diseases, it is the date of recording that is indicated.

Country	Asbestosis	Lung cancer caused by asbestos	Mesothelioma	Pleural plaques
Germany	1937	1942	pleural & peritoneal: 1977 pericardial: 1993	1988
Austria	1955	1955	pleural: 1976 pericardial: 1977 peritoneal: 1990	-
Belgium	1969	1999 (from 1969 to 1999: only if associated with an asbestosis)	1982	1999
Denmark			1959	Included again in the list on January 1st, 2005
Spain			1978	-
Finland	"diseases caused by asbestos dust" in the indicative list of ODs			
France	1945	1985 (from 1976 to 1985: only if associated with an asbestosis)	1976	1985 (from 1976 to 1985: only if disorders of the respiratory function)
Italy	1943	1994 (before: only if associated with an asbestosis)		complementary system
Norway	1956			
Portugal	1973	1980		
Sweden	Proof system			
Switzerland	1953	1984 (before: complementary system)		

Asbestosis is the first disease caused by asbestos to have been registered on the national lists of occupational diseases: in **Germany** as from 1937, followed by **Italy** (1943) and **France** (1945). The last countries to have included asbestosis in their lists are **Belgium** (1969), **Portugal** (1973) and **Spain** (1978).

Following the discovery of its relation to asbestosis, **lung cancer** due to asbestos was included in the lists of occupational diseases. While **Germany** was once again the precursor (1942), six of the twelve European countries of Table 3 included the disease only from the 1980s. However, it should be noted that the three last countries to have done it (**France** in 1985, **Italy** in 1994 and **Belgium** in 1999) already recognised the occupational nature of the asbestos-related lung cancer when associated to an asbestosis since the 1970s.

With the exception of **Norway** (in 1956) and **Denmark** (in 1959), the recognition of **mesothelioma** took place later, between 1976 for **France** and 1994 for **Italy**. This can be explained by the fact that this disease is characterized by a very long latency period (from 20 to 40 years).

Although **pleural plaques** are indeed a symptom of asbestos exposure, they generally cause no harm to the organism. That is why, from the recognition viewpoint, they are approached less uniformly than the diseases mentioned above.
In **Austria** and **Spain**, the recognition of pleural plaques as an occupational disease is not possible.
It is possible in all the other countries, either under the list system (**Germany**, **Belgium**, **Denmark**, **Finland**, **France**, **Norway**, **Portugal**, **Switzerland**), or under the complementary system (**Italy**), or under the proof system (**Sweden**).
However, only **France** awards compensation based on the mere certification of the existence of pleural plaques. The other countries which allow recognition pay the victim cash benefits only in exceptional cases, because for that they require that his (her) lung capacity be reduced as a result of the pleural plaques, which is usually not the case. The advantage of recognition without compensation is that it facilitates the proof of asbestos exposure in the event that the victim were to be afflicted subsequently by another disease caused by the material.
Note, moreover, that **pleural thickening** is recognised as an occupational disease as such only in **France**.

Table 3 shows that asbestosis, mesothelioma, lung cancer and pleural plaques are now on the whole well known and recognised as occupational diseases attributable to inhalation of asbestos fibres.

But there exist other types of cancers also suspected of being caused by asbestos, for which the recognition of their job-related nature is far from unanimous in Europe.
It is true that all the countries taking part in the study with the exception of **Spain** have a complementary system (or only a proof system in **Sweden**) under which the victim can theoretically have the job-related nature of any disease recognised. But since this requires that the victim provide proof, this procedure is in practice very difficult. Its outcome also largely depends on the favourable or unfavourable position of the entity within the insurance organisation that examines the case. This position is based on international scientific research, but also reflects a social consensus concerning support to the victims of said diseases.

Table 4: Way of recognising other asbestos-related cancers

The table below lists the other types of asbestos-related cancers for which there is recognition in Europe. Regarding the resulting diseases that could be recognised under the complementary system, only those countries that have effectively recognised cases to date are mentioned.

Type of cancer		Recognition under the list system	Recognition under the complementary system
Otorhino-laryngologic system	larynx	Norway (1956) Denmark (1986) Austria (1990) Germany (1997) Belgium (2002)	France Italy
	pharynx	-	France
	trachea	-	Germany Denmark France
	sinus	-	France
Digestive system	œsophagus	-	France
	stomach	Norway (1956)	France
	colon	-	Norway
	rectum	-	France

This table shows important differences between countries. The fact that a country is not mentioned in such or such a part of the table can be explained by an unfavourable position of the insurance organisation or else an absence of claims for recognition.

Only for cancer of the larynx is there a relative consensus, since it is recorded on the list of occupational diseases in **Norway**, **Denmark**, **Austria** and more recently **Germany** and **Belgium**. It could be recognised under the complementary system in **Italy** and **France**; in France, discussions are under way with a view to its inclusion in the national list.

C - Recognition criteria

The following information does not aim to describe exhaustively the criteria applied in each country, but it gives an overview of the practices used while underlining those common and those specific to each country (for a detailed information, see Appendixes 1 to 4).

The recognition procedures are specific to each country. The national Insurance organisations against occupational diseases usually receive documented claims for recognition, which enable them to check the diagnosis, to assess the victim's exposure to asbestos dust, and, when applicable, to establish the connexion between the occupation and the pathology. The requirements relating to exposure and diagnosis may nevertheless differ from one country to another.

Asbestosis

Asbestosis is relatively easy to diagnose by X-rays, and the international classification of pneumoconiosis X-rays by the International Labour Organization[7] can serve as a reference in this area.

Generally, the countries require definite extensive exposure to asbestos dust, although without always stipulating the length of time.

Those countries that mention a latency period stipulate a minimum period of between 10 and 15 years.

While many countries pay compensation only for the cardiorespiratory consequences of asbestosis for the victim's state of health, in **Denmark** and in **Sweden**, the reduction in respiratory capacity is a prerequisite for recognition.

Asbestos-related lung cancer

Unlike mesothelioma, lung cancer can be caused by various factors: tobacco consumption or environmental or occupational factors others than asbestos, such as exposure to polycyclic aromatic hydrocarbons, chromium and nickel. So although it is not hard to diagnose the disease in itself, it is hard to diagnose it as an occupational disease.

That is why, in the various countries, what is most important to establish is the existence of asbestos exposure. In many of them (**Germany**, **Austria, Belgium, Finland**, **Norway**, **Sweden** and **Switzerland**), there are two alternative criteria for recognition: either intense exposure is proved (Helsinki criteria[8] or threshold of 25 fibres/ml/year), or else the lung cancer is associated with asbestosis or extensive modifications of the pleura. The countries of southern Europe (**Spain**, **France** and **Italy**) seem to be less exacting with regard to the exposure criteria, because they stipulate merely a minimum period.

Role of smoking

In almost all European countries, tobacco abuse is not involved in the procedure for recognition of lung cancer caused by asbestos.

In **Denmark** however, if there is a doubt concerning the asbestos exposure, major tobacco abuse leads to rejection of the claim for recognition. Moreover, if the victim consumes seven grammes or more of tobacco per day, or more than 10 pack-year[9], smoking is taken into account for the compensation of asbestos-related lung cancer and larynx cancer; 50% of reservations will be applied to the amount of the benefits granted to the victim.

These reservations for tobacco abuse also apply to cases of asbestosis if the victim's medical history reveals a disease obstructing the respiratory tracts or a chronic bronchitis. On the contrary, the tobacco abuse factor is not relevant and therefore never taken into account in the case of mesothelioma and pleural plaques (on the condition that a minimal exposure to asbestos be proved).

Mesothelioma

Mesothelioma is a disease that is relatively hard to diagnose, because its signs and symptoms can be confused with that of primitive forms of lung cancer.

The method of diagnosis is the same in every country: Medical imaging (X-rays, Computed Tomography) and histological examination (biopsy). In cases for which this type of examination is not feasible, the pleural fluid is sampled and analysed. In some countries (**Germany**, **The Netherlands**), there are groups of specialised pathologists called "Mesothelioma panels", who perform the assessments of all suspected cases countrywide.

The requirements regarding exposure are minimal in all the countries: even modest exposure (a few weeks) to asbestos dust is sufficient.

Pleural plaques

In all those countries that authorise their recognition as occupational disease, the diagnosis is made based on an X-ray examination. A certain exposure, even modest, to asbestos dust is enough.

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7 Classification of X-rays comprising 22 typical films illustrating the classification of small and large parenchymatous opacities, pleural abnormalities and certain other abnormalities.

8 Helsinki criteria: see footnote on page 43.

9 Pack-year: conventional unit of measure, measuring cumulative tobacco consumption by a smoker: one pack-year corresponds to the consumption of one pack of cigarettes per day for one year. Ten pack-year therefore correspond to the consumption of one pack per day for 10 years, or else one half-pack per day for 20 years.

PART 2

Number of cases recognised as occupational diseases

A - Statistics concerning the four main asbestos-related diseases

1. Data

Germany, **Belgium**, **Denmark**, **Spain**, **Finland**, **France**, **Italy**, **Norway** and **Switzerland** were able to provide precise statistics concerning the number of cases recognised for the four main asbestos-related diseases over the period 1980-2003.
All this data was analysed by a comparative approach (see page 20) and then an evolutionary approach (see page 22).

Table 5 and Graph 1: Recognised cases of asbestosis between 1980 and 2003

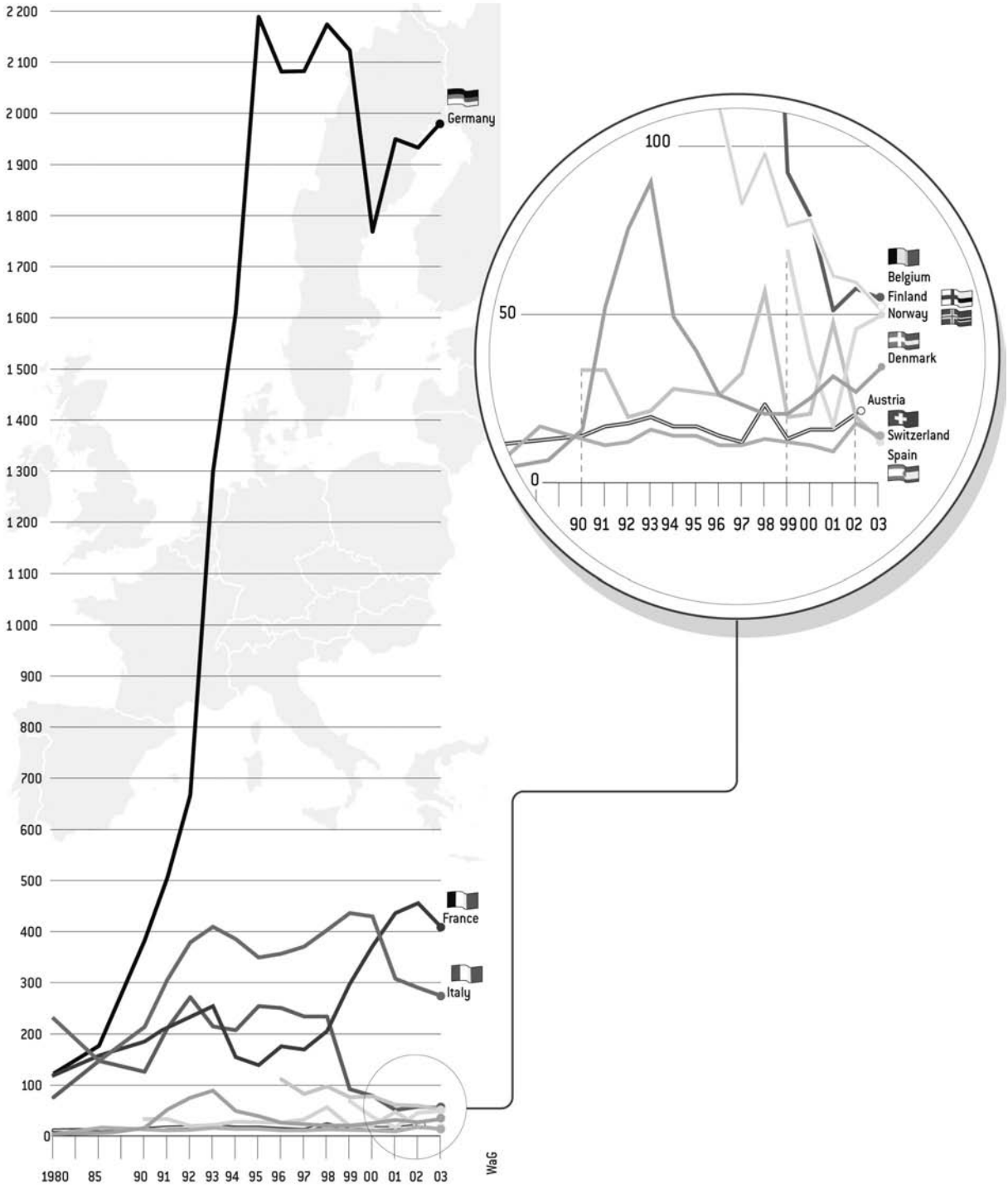
Year	Germany[10]	Austria	Belgium	Denmark	Spain	Finland	France	Italy	Norway[11]	Switzerland
1980	118	7	72	0	-	-	116	225	-	0
1985	173	8	144	2	-	-	153	143	-	13
1990	379	10	122	12	30	-	181	210	-	9
1991	502	13	207	48	30	-	-	302	-	7
1992	663	14	268	71	16	-	-	375	-	8
1993	1,295	16	211	85	18	-	250	406	-	12
1994	1,606	13	203	45	24	-	151	382	-	10
1995	2,185	13	250	35	23	-	135	346	-	10
1996	2,078	10	247	22	22	107	172	353	-	7
1997	2,079	8	230	19	29	79	165	367	-	7
1998	2,170	19	230	17	53	93	201	399	-	9
1999	2,120	9	88	17	16	72	294	432	65	8
2000	1,765	12	75	21	17	74	368	426	33	7
2001	1,946	12	47	28	43	57	432	304	13	6
2002	1,929	17	54	23	16	55	452	286	42	14
2003	1,978	-	51	30	9	48	406[12]	271	45	10

NB: some of these cases also appear in the statistics of recognised cases of pleural plaques (see Table 8)

10 As from 1993, recognition as occupational disease possible without functional disorders.

11 These figures represent here the cases recognised for a non economical loss (physiological damage). There should be added a dozen cases per year which have been refused on this basis, but recognised as occupational diseases (for benefits in kind).

12 Semi-definitive data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Graph 1

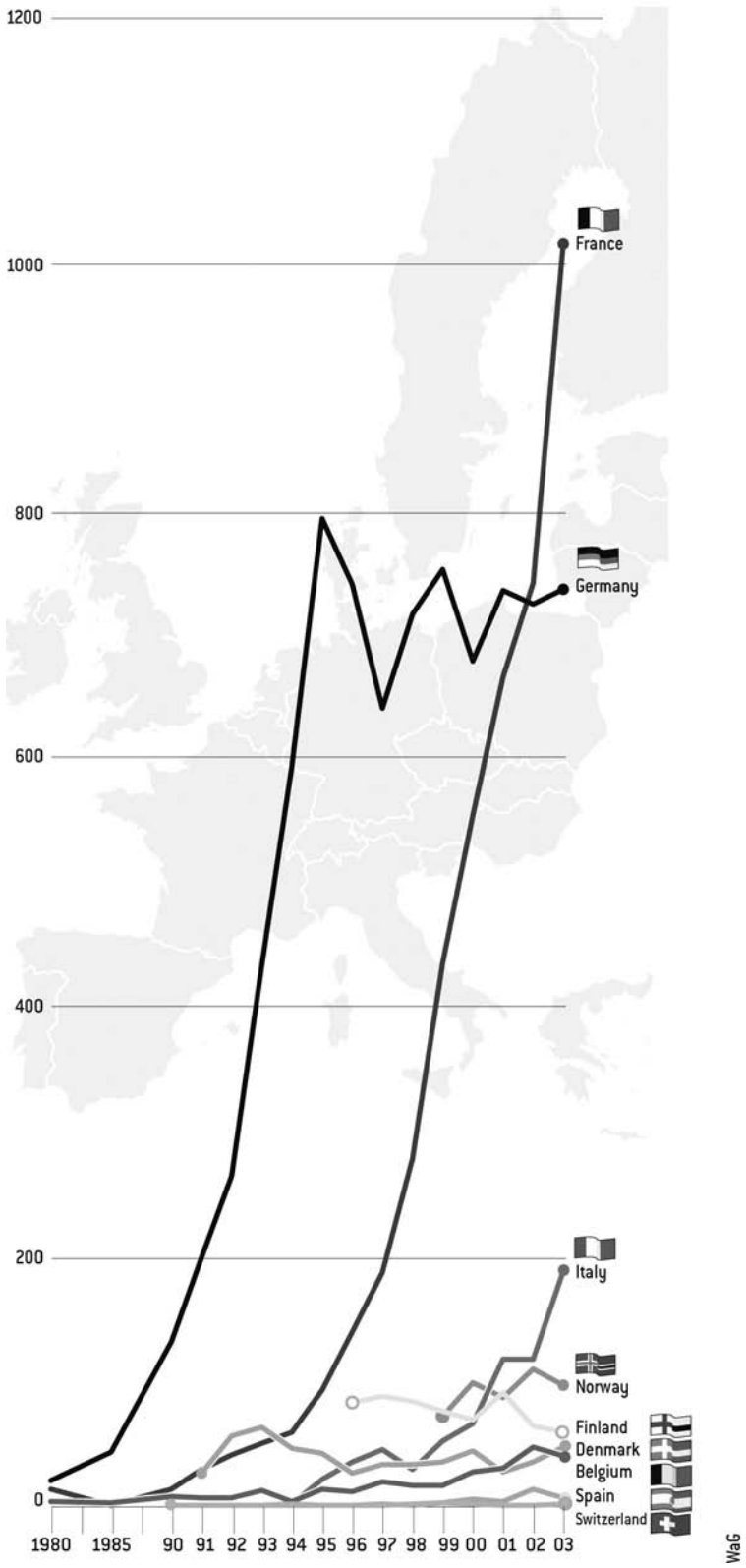
Table 6 and Graph 2: Recognised cases of lung cancer caused by asbestos between 1980 and 2003

Year	Germany	Belgium	Denmark[13]	Spain[14]	Finland	France	Italy	Norway	Switzerland
1980	20	3	-	-	-	13	-	-	-
1985	43	2	-	-	-	0	-	-	-
1990	132	7	-	0	-	13	0	-	0
1991	200	6	26	0	-	-	0	-	0
1992	266	6	56	0	-	-	0	-	0
1993	436	12	63	0	-	50	0	-	0
1994	597	3	46	0	-	59	1	-	1
1995	796	13	42	0	-	93	21	-	0
1996	743	11	26	0	83	140	35	-	0
1997	643	19	33	1	88	188	45	-	0
1998	719	16	33	0	84	280	29	-	1
1999	755	16	35	2	76	438	52	72	2
2000	681	27	44	5	69	557	66	99	1
2001	738	30	27	3	91	668	118	87	0
2002	727	47	35	13	64	744	118	110	0
2003	739	40	47	6	59	1,018[15]	189	97	1

13 Before 1991, all cases of lung cancer were registered under the same statistical code, without any indication of the causal agent.

14 In Spain, cases of mesotheliomas and cases of asbestos-related lung cancer are both registered under the same statistical code.

15 Semi-definitive data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Graph 2

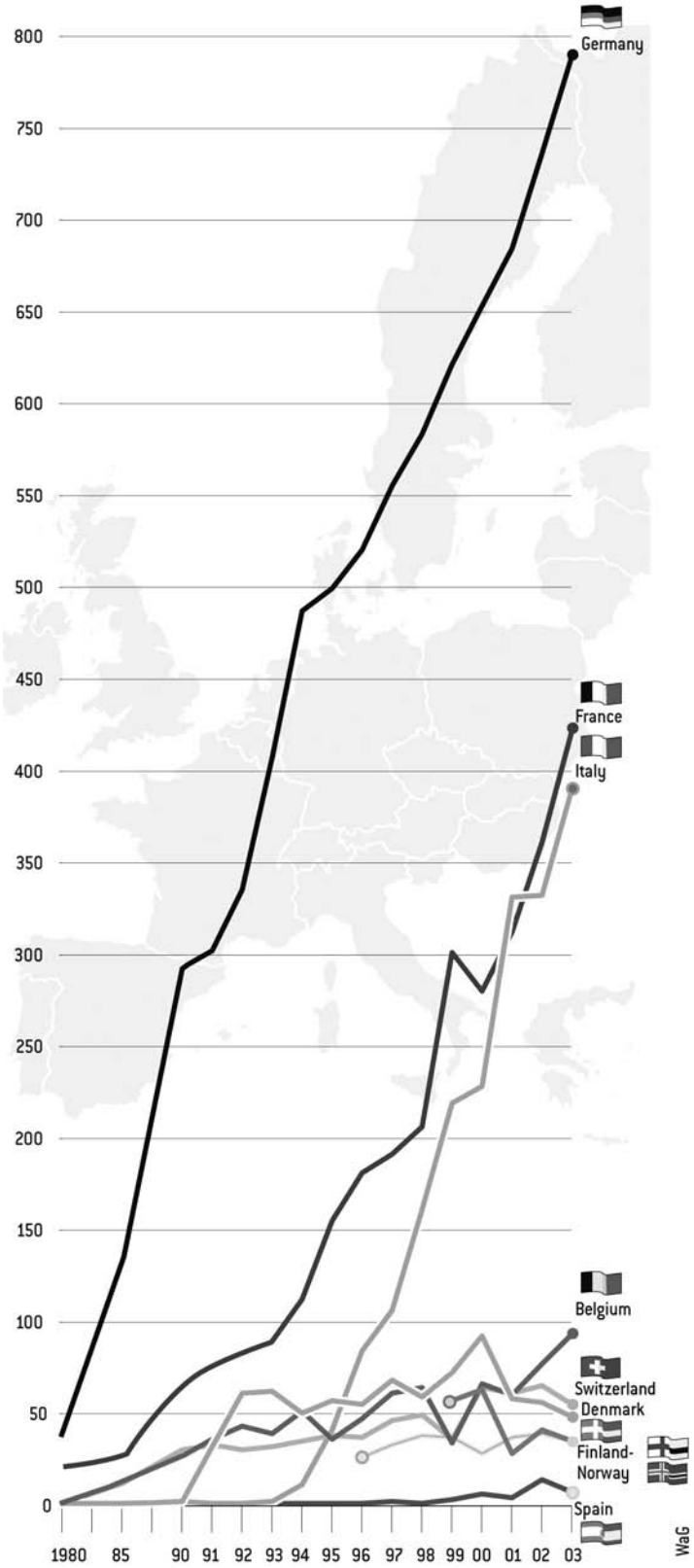
Table 7 and Graph 3: recognised cases of mesotheliomas between 1980 and 2003

Year	Germany	Belgium	Denmark	Spain[16]	Finland	France[17]	Italy	Norway	Switzerland
1980	36	0	0	-	-	20	-	-	0
1985	135	12	0	-	-	25	-	-	11
1990	291	25	1	0	-	65	1	-	29
1991	301	35	31	0	-	-	0	-	32
1992	334	42	60	0	-	-	0	-	29
1993	406	38	61	0	-	89	1	-	31
1994	486	50	49	0	-	111	10	-	34
1995	498	35	56	0	-	154	40	-	37
1996	519	46	54	0	25	180	83	-	36
1997	554	60	67	1	32	190	105	-	45
1998	582	63	58	0	37	205	160	-	48
1999	620	33	71	2	36	300	218	56	35
2000	652	65	91	5	27	279	227	62	63
2001	683	59	57	3	36	311	330	27	60
2002	735	76	55	13	38	360	331	40	64
2003	788	92	47	6	34	421[18]	389	34	54

16 In Spain, cases of mesotheliomas and cases of asbestos-related lung cancers are both registered under the same statistical code.

17 Malignant primitive mesotheliomas and other pleural primitive tumours.

18 Semi-definitive data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France
Italy
Belgium
Switzerland
Denmark
Finland-
Norway
Spain
1980 85 90 91 92 93 94 95 96 97 98 99 00 01 02 03
WaG

Graph 3

Table 8 and Graph 4: Recognised cases of pleural plaques between 1980 and 2003

Year	Germany[19]	Belgium[20]	Denmark[21]	Finland	France	Norway	Switzerland
1980	0	-	0	-	0	-	0
1985	0	-	3	-	24	-	2
1990	59	-	2	-	137	-	11
1991	136	-	6	-	-	-	9
1992	217	-	6	-	-	-	4
1993	558	-	3	-	409	-	13
1994	842	-	5	-	519	-	12
1995	1,274	-	5	-	674	-	9
1996	1,278	-	4	287	1,115	-	15
1997	1,171	-	1	265	1,220	-	23
1998	1,267	-	3	277	1,444	-	12
1999	1,224	-	7	232	2,027	88	13
2000	1,182	2	4	251	2,407	38	26
2001	1,139	12	9	203	2,815	10	21
2002	1,145	14	11	187	3,357	29	50
2003	1,249	9	-	142	3,460[22]	18	67

NB: some of these cases also appear in the statistics of recognised cases of asbestosis (see Table 5)

19 As from 1993, recognition as occupational disease possible without functional disorders

20 In Belgium, pleural plaques were included in the list of occupational diseases only as from 1999.

21 Pleural plaques with asbestosis

22 Semi-definitive data


3 500
3 000
2 500
2 000
1 500
1 000
500
0
1985
90
91
92
93
94
95
96
97
98
99
00
01
02
03
France
Germany
Finland
Switzerland
Norway
Belgium
Denmark
99
00
01
02
03
WaG

Graph 4

To comment on these statistics, two approaches were adopted in succession:
- a **comparative approach**, which makes it possible to assess the rate of occurrence of each disease in all the countries at a given time (for an equivalent insured population);
- an **evolutionary approach**, which involves a comparison between the statistics for 1992 and those for 2002, and which makes it possible to measure the trends to an increase or decline in the number of cases over this recent period.

2. Comparative approach

Table 9: Number of recognised cases for 100,000 insured persons in 2000

This table proposes to compare the year-2000 statistics for each disease with the number of people insured in each country, in order to obtain a ratio allowing the countries to be compared with one another at a given point in time.

Country	Insured population[23]	Pathology			
		Asbestosis	Lung cancer caused by asbestos	Mesothelioma	Pleural plaques
Germany	33,721,319	5.23	2.02	1.93	3.50
Belgium	2,369,256	3.16	1.14	2.74	0.08
Denmark	2,523,878	0.83	1.74	3.60	0.16
Spain	11,155,100	0.15	0.04[24]		-
Finland	2,323,000	3.18	2.97	1.16	10.80
France	16,868,914	2.15	3.30	1.65	14.27
Italy	17,900,000	2.38	0.37	1.27	-
Norway	2,200,000	1.50	4.50	2.82	1.73
Switzerland	3,337,000	0.21	0.03	1.89	0.78

Although necessary, this statistical comparison is a tricky exercise due, in particular, to the diversity of systems for insurance against occupational diseases prevailing in Europe. One should therefore be cautious regarding the interpretation of the results obtained. There are many limitations to the approach, which can all explain the differences observed from one country to another.

One can observe that, with the exception of mesothelioma, there are relatively large differences in the ratios from one country to another:
- from 0.15 in **Spain** to 5.23 in **Germany** for asbestosis,
- from 0.03 in **Switzerland** to 3.3 in **France** for asbestos-related lung cancer,
- from 0.08 in **Belgium** to 14.27 in **France** for pleural plaques.

23 It represents the number of people insured in 2000 in each country by the national insurance organisation for occupational diseases, knowing that it does not necessarily cover the same categories of workers in all countries (self-employed workers, farmers or public sector employees can for example be excluded from it).

24 In Spain, cases of mesotheliomas and cases of asbestos-related lung cancers are both registered under the same statistical code.

A single cause cannot explain the high or low level of each ratio taken separately, because generally a combination of variables must be taken into consideration. Three types of explanatory factors have accordingly been identified.

In some countries, the population exposed to asbestos dust was more numerous than in others.
One must also take into account the more or less intensive use of asbestos material in the past depending on the country (see Table 1).
The specific nature of certain economic activities has an incidence on the number of exposed persons. This is the case especially in **Norway** (which has high ratios for mesotheliomas and lung cancers) with its shipyards and shipping industry in general.
Finally, the fact that the ratios were calculated for the year 2000 implies that they already reflect the effects of the more or less late introduction of legislation on the protection of workers exposed to asbestos. **Denmark** provides a very eloquent example regarding this point (see Table 2). This is true for all diseases except mesothelioma, for which the latency period is very long.

The number of cases recognised largely depends on the number of claims for recognition.
It is obvious that for those countries that have set up an effective system for detection of workers exposed to asbestos dust in the past, the results of their initiative are reflected today in the statistics (see page 29). This is no doubt what partly explains the generally high ratios in **Finland**, **Norway** and **Germany**. And on the contrary, the extremely low ratios for **Spain** for all diseases and for **Italy** and **Switzerland** for lung cancer probably reflect a problem of under-reporting in these countries.
The claims for recognition also depend on the attractiveness of the compensation system of occupational diseases. However, it is impossible to measure the impact of the quality of the compensation offered by a country on the number of claims for recognition and hence on the number of recognised cases of asbestos-related diseases for that country.

The system of recognition of occupational diseases in force in each country can also explain certain discrepancies.
The method of recognition, and in the case of asbestos-related disease, the date of inclusion in the list of occupational diseases (see Table 3) can be an explanatory factor. Accordingly, the late inclusion of pleural plaques in the **Belgian** list (1999) or, on the contrary, their removal in **Denmark** from 1989 to 2004, is to be taken into account when looking at the low year 2000 ratios calculated for these countries.
The criteria for recognition (see Appendix 1 to 4) have an even more definite influence on the number of cases recognised. The high ratio of 3.3 for lung cancers in **France** could accordingly partly be explained by the fact that, under the recognition procedure, the exposure criterion (the exposure must last at least 10 years, but there is no requirement regarding the intensity of the exposure) is rather more open than in most other countries of Europe.

Contrary to the other diseases, the rate of occurrence of mesotheliomas does not differ much from one country to another: in the year 2000, for 100,000 insured, the ratio ranges from 1.16 cases recognised in **Finland** to 3.6 in **Denmark**.

The explanation for this could be as follows: the classification of mesothelioma as an occupational disease is relatively easy, because this disease is almost exclusively caused by asbestos, a material which is itself used predominantly in an industrial environment. In practice, the criteria for recognition are therefore no different from one country to another, as may be the case for lung cancer.

Another explanation could be the fact that the latency period for this disease is longer (25 to 40 years) than for other diseases, and that even slight exposure to asbestos can cause a mesothelioma. Accordingly, the statistics for the year 2000 do not reflect the measures adopted by the pioneering countries to protect exposed workers.

3. Evolutionary approach

Asbestosis

This pathology, which used to be fairly frequent, is now in decline in all the countries except in **France**. This decline in the number of cases recognised began in the mid-1990s in **Denmark** and **Finland**. It is more recent in **Germany**, in **Belgium** and in **Italy**. The number of cases is stable in **Austria** and **Switzerland**.

This decline is the result of the more or less late prohibition of the use of asbestos, combined with a shorter asbestosis latency period (between 10 and 20 years) than for other asbestos-related diseases.
It should be specified that the spectacular increase in the number of asbestosis cases recognised in **Germany** between 1993 and 1995 is to be related to the 1992 decision of the *Bundessozialgericht*[25] to recognise the occupational nature of diseases even in the absence of a functional disorder for the victim. This decision had a special impact on asbestosis cases which do not always involve a decline in the lung function.

Mesothelioma and lung cancer caused by asbestos

These two diseases followed, with a few exceptions, a growth pattern over the period 1980-2003, namely a clear upward trend. This increase in the number of cases was foreseeable for two reasons.
Firstly, the people exposed to asbestos dust during the 1960s-1970s were likely to see one of these diseases appear 20 to 40 years later depending on the latency period, i.e. from the 1980s on, but especially since the 1990s.
Secondly, during this period victims and practitioners were increasingly well informed concerning these diseases, but also concerning the procedure for recognition of their job-related nature. The systems for medical supervision of exposed workers set up in some countries also contributed to the growth in the number of claims for recognition.

The most recent statistics nevertheless allow a distinction to be made between two groups of countries.

In **Denmark**, **Finland**, **Norway** and **Switzerland**, one can observe chiefly a stabilisation - or even a decline - in the number of mesothelioma cases recognised in recent years. As regards the statistics for lung cancer in these countries, they show a relative stability over the entire period. It is the early prohibition of the use of asbestos (1984 for **Norway**, 1986 for **Denmark**, 1989 for **Switzerland** and 1992 for **Finland,** see table on page 5) which could explain these trends.

Germany, **France**, **Italy**, and to a lesser extent **Belgium**, have recorded for these two pathologies a regular - even exponential - increase over the entire period. The number of lung cancers in **Germany**, however, seems to have stabilised since 1995.

The explanations given by the latter countries are as follows.

In **Germany**, the staggering increase of mesotheliomas and especially lung cancers from 1992 on is to be placed in parallel with the reunification of 1990. Following this event, the country had to "absorb" the claims for recognition of the insured of the former German Democratic Republic, where it may be assumed that working conditions were not as good as in the former GFR (West Germany).
Concerning more particularly the lung cancer, the sharp increase observed between 1993 and 1995 and the continuing high level of cases recognised even now can be explained by the 1993 introduction of an additional (alternative) criterion in the procedure for recognition of the occupational nature of this disease (see Appendix 2). As regards the stabilisation observed since 1995, it could be the result of the measures implemented by the *Berufsgenossenschaften*[26] from the start of the 1970s to protect workers exposed to asbestos, and limit exposure values in particular.

25 Federal Social Court

26 German institutions for statutory accident insurance and prevention

France explains the very sharp upward trend in the number of cases recognised during the reference period (1980-2003) by changes in the legislation on recognition in a way favourable to the victim:

- Establishment, in 1993, of the complementary system, which enables the victim, provided that he/she can prove that their disease is directly related to their customary work, to have the job-related nature of their disease recognised even if all the conditions included in the occupational disease tables are not met. As an example, for year 2002 this system made it possible to recognise 10% of asbestos-related lung cancers, 4% of mesotheliomas and 2.6% of asbestoses.
- In 1996, amendment of the conditions stipulated in the list of occupational diseases stipulating the recognition criteria: the periods of liability were lengthened for various diseases caused by asbestos.
- In 1998, change in the starting point of the limitation period for claims for recognition: the victims of asbestos-related diseases detected between 1947 and 1998 can have their claim-for-recognition dossier reopened, even if that claim had been rejected earlier.
- In 1998, lightening of the procedure for recognition of mesotheliomas (simplification of the conditions of enquiry into occupational exposure to asbestos).

In light of more recent events, we are likely to see a constant increase in the number of cases recognised in **France**.

- Increasingly frequent recognition by the courts of the inexcusable fault of employers having exposed their employees to risks related to the inhalation of asbestos dust, which gives entitlement to better compensation for the victim and his (her) legal beneficiaries (see page 37).
- Establishment in 1999 of a system of early retirement for workers exposed to asbestos (see page 35).
- In 2001, establishment of the Asbestos Victim Compensation Fund (*Fonds d'Indemnisation des Victimes de l'Amiante*), which itself brings the case before the insurance organisation when it appears that the disease giving rise to the claim for compensation could be of work-related origin (see page 33).

In **Italy**, the late but definite upward trend in the number of cases recognised could be explained by the fact that mesothelioma and asbestos-related lung cancer were registered only in 1994 on the country's list of occupational diseases. Prior to that registration, these two diseases were admittedly entitled to compensation as a complication of asbestosis, but it was only in 1994 that they were recognised independently.
Moreover, it is possible that the 1992 establishment of a system of early retirement for workers exposed to asbestos (see page 34) led to an increase in the number of claims for recognition and hence of cases recognised in Italy.

▸ Pleural plaques

There are relatively few countries allowing recognition of the occupational nature of pleural plaques and having statistics covering the entire period. Nevertheless, one can observe on the basis of the available data an almost overall stability of the number of recognised cases during the reference period. This stability began only in the mid-1990s in **Germany**, following a strong increase encouraged by the 1992 decision of the *Bundessozialgericht* (see page 22).

France is an exception, since the number of such recognised cases of pleural plaques increased eightfold between 1993 and 2002.
This French exception is to be placed in parallel with the fact that this country is the only one to compensate pleural plaques without requiring a reduction in the lung capacity (see page 9).
Moreover, several legislative changes have been made along lines favourable to the victim: amendment of the definition of pleural plaques in the list of occupational diseases in 2000, introduction of a specific system of compensation for asbestos-related diseases including pleural plaques in 2002.

4. Some statistics difficult to compare

A few countries have statistics concerning the number of recognised cases of asbestos-related diseases, but the lack of a classification according to the type of pathology prevents any comparison with the other countries (see Tables 10, 11, 12 and 13).

Table 10: AUSTRIA number of malignant tumours of larynx, lung, pleura and peritoneum caused by asbestos

Year	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Recognised cases	6	5	7	7	9	11	18	10	5	18	27	12	25	27	42

NB: Pleural plaques are not recognised. Asbestosis cases appear on Table 5.

Table 11: PORTUGAL total number of diseases caused by asbestos

Year	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Recognised cases	2	1	13	7	5	16	7	8	11	13	10	8	7	9	17

Table 12: SWEDEN number of cases of asbestosis, silicosis and pleural plaques

The available statistics cover all the cases of asbestosis, silicosis and pleural plaques recognised between 1980 and 2001; the Swedish statistics do not make it possible to distinguish between work-related cancers according to the causal agent, so it is not possible to know the number of lung cancers caused by asbestos.

Year	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Asbestosis, pleural plaques	1,262	3,335												
Asbestosis, silicosis, pleural plaques			834	673	640	550								
Asbestosis, silicosis							277	103	57	20	28	20	32	40

Most cases recognised between 1980 and 1993 involved pleural plaques. Since 1993, claims for recognition of pleural plaques have been examined by the AFA, the Swedish complementary system which proposes a special compensation system (see page 34). This largely explains the decreasing number of cases appearing in this table from that year on.

THE NETHERLANDS

The Netherlands have to be considered differently: since in this country there does not exist a specific insurance for occupational risks, there is no procedure for claims for recognition for the purpose of compensation. Because of this, other sources are needed to get quantitative information on occupational diseases and accidents at work.

In order to collect statistics, there is a national notification system for occupational diseases, in which occupational physicians are obliged to report to the *Nederlands Centrum voor Beroepsziekten* (Netherlands Centre of Occupational Diseases).

However, notification of asbestos-related diseases within this system is quite rare.

- **Mesothelioma**

Table 13: Number of mesotheliomas

Year	2000	2001	2002	2003	2004
Number of notificated cases	19	8	3	12	15

Another source of information is formed by the mortality statistics.

Because mesothelioma is usually fatal within a year after the diagnosis is made and mesothelioma is almost always caused by past asbestos exposure, mortality figures of mesothelioma provide a good indicator of the burden of asbestos-related diseases (see Graph 7).
Obviously there is a great discrepancy between the actual incidence of mesothelioma and the number of cases reported as occupational disease. An explanation for the underreporting is the long time lapse between exposure and expression of the disease (latency period) and the fact that at the time of diagnosis patients often have been retired from work and don't come to the attendance of occupational physicians.

- **Asbestosis**

Occasionally a case is presented; but the Netherlands Centre of Occupational Diseases does not have reliable figures.

- **Lung cancer**

Epidemiological studies have shown that the number of lung cancers which could be caused by asbestos is almost equal to the number of cases of mesothelioma by the same asbestos exposure. So in the Netherlands about 400 cases annually would occur. In practice, cases are not reported as occupational diseases, because the victims of lung cancer exposed to asbestos are not encouraged to do it. They are covered by the social insurance and annually, about a dozen of them start a liability procedure in court against their employer.

- **Pleural plaques**

In the Netherlands, they are considered as a sign of past exposure to asbestos and not as a sign of disease.

Other possible cases such as gastro-intestinal cancer or larynx cancer have not been reported in the Netherlands to date.

B – Statistics concerning the other asbestos-related pathologies

Apart from the four main asbestos-related diseases discussed above, few cases of other diseases are recognised.

Table 14: Number of recognised cases of other asbestos-related pathologies

	Type of cancer	Number of cases	Period
Otorhino-laryngologic system	**larynx**	Germany : 237 cases Denmark : 15 cases France : 11 cases Italy : 3 cases	1997 to 2002 1992 to 2003 1994 to 2002 2002
	pharynx	France : 2 cases	1994 to 2002
	trachea	Germany : 1 case Denmark : 1 case France : 1 case	2004 2004 1994 to 2002
	sinus	France : 4 cases	1994 to 2002
Digestive system	**œsophagus**	France : 1 case	1994 to 2002
	rectum / colon	France : 1 case Norway : 2 cases	1994 to 2002 2002
	other	Italy : 1 case	1994
Other	**retroperitoneal fibrosis**	Switzerland : 1 case	2004

PART 3

Specific insurance systems for asbestos-related diseases

A- Monitoring of asbestos-related diseases

1. Medical follow-up of former exposed workers

In Europe, most countries have an industrial medicine system responsible for monitoring workers medically throughout their working life, and there is often a specific system for those exposed to carcinogenic agents.
But once retired, the former workers no longer benefit from these systems, which poses a special problem for those who have been exposed to asbestos. The symptoms of the diseases related to this material may appear at a late stage due to their long latency period. The same problem is posed for those who have changed professional activity and whose new activity does not imply special medical monitoring.
It is for this reason, but also because of the large numbers of such diseases, that in several countries the occupational injuries insurance organisation has established a system of post-occupational monitoring for those people exposed in the past to asbestos or to carcinogenic agents in general.

In **Germany**, such a post-exposure medical surveillance is organised by *the Zentrale Erfassungsstelle asbeststaubgefährdeter Arbeitnehmer* - ZAs (Central Registration Agency for Employees exposed to Asbestos Dust), which was founded in 1972 and is financed by the *Berufsgenossenschaften*[27].
The information relating to exposed workers and to the nature and intensity of the exposure reaches the ZAs via the *Berufsgenossenschaften*, which receive it from the employers (this is an obligation since 1984) and check it. ZAs registers data concerning exposure to asbestos, organises screenings, especially after exposure and upon retirement, and archives medical data for recognition procedure as well as scientific research.
As at the end of 2003, there were 495,944 workers registered at the ZAs, of whom 60,793 were undergoing occupational health screening as they were still exposed to asbestos (in demolition and redevelopment work) and 242,028 because of past asbestos exposure.
The medical examinations are offered every 12 or 36 months depending on exposure level, time since first exposure and age. These examinations, performed by specially trained doctors, cover medical history, career experience, tobacco-related behaviour, physical examination, spirometric testing and X-ray examination of respiratory tracts.

In **Norway**, all employees who have worked for at least two years in contact with asbestos prior to 1980 pass an X-ray exam at retirement, and receive a written document informing them that they must repeat this exam every two to five years depending on their exposure. These people are identified by means of the register that each employer is required to keep for employees who have worked in contact with asbestos and that is sent to the Labour Inspectorate in the event of a shutdown of the firm. This system was set up as from 1976.
The National Insurance Administration[28] shall cover the cost of these medical and X-ray examinations if the insured intends to make a claim for recognition as an occupational disease. On the other hand,

27 German institutions for statutory accident insurance and prevention

28 Norwegian social insurance organisation

if the worker is still employed and the examinations reveal no disease, it is his employer who pays for these examinations.

In **Switzerland,** workers in contact or having had contacts with asbestos undergo medical check-ups every two years: case history, exam of the thorax by radiography and spirometric testing. The examinations are performed by outside doctors, but the results are evaluated by the industrial doctors of the *Schweizerische Unfallversicherungsanstalt* - SUVA[29] and are stored by this organisation.
As part of post-occupational monitoring, medical check-ups are organised on the basis of information reported by the employers to the SUVA, which contacts former workers and provides funding for the system. If pathological changes (e.g. pleural plaques) that could be due to asbestos are observed, the case will be treated administratively as an occupational disease.
At present, 3,900 workers are concerned by these medical check-ups, and 1,700 examinations are performed each year.

In **Finland**, the occupational health services are competent to monitor, via radiographic examinations performed every three years, workers who are or have been exposed to asbestos. If the X-rays reveal pleural or parenchymatous change suggesting an asbestos-related disease, the worker is directed toward the Finnish Institute of Occupational Health - FIOH or a clinic specialised in lung diseases, to undergo further examinations: high-resolution computed tomography and exploration of the respiratory functions. Pensioners, on the other hand, do not benefit from this system.

In **France**, those people who have been exposed to carcinogenic agents appearing in the tables of occupational diseases (hence including asbestos dust) can, since 1995, benefit from post-occupational medical supervision. This follow-up is not systematic, because it is up to the former employee (unemployed, job-seeker or retiree) to take the initiative to pass the examination.
A clinical examination is planned every 2 years, but the referring doctor may request an X-ray examination of the thorax (every 2 years) and a respiratory function test if he/she considers it necessary. The expenses entailed by these examinations are payable by the C*aisse nationale d'assurance maladie*[30].
However, it has been judged that to date this system has been very seldom employed, due to the lack of information available to the unemployed, retirees and the medical profession.
For this reason, an experiment has been conducted since 2003 in three regions of France, in order to develop effective post-occupational monitoring procedures in favour of those people who have been exposed to asbestos. This experiment involves an administrative part and a medical part. On the one hand, it aims to establish regional structures for coordination of the stakeholders so as to improve both the information available to and the monitoring of exposed people. It is also designed to optimise the medical monitoring protocol, and in particular to refine the contribution of the scanner by comparison with radiography.
The ongoing evaluation of this experiment concludes that use of the scanner is superior to the use of X-rays, and that the experimental system should be adopted on a widespread basis throughout the territory.

In **Italy**, there is no national system for monitoring unemployed or retired workers who have been exposed to asbestos during their working life. It is the regions that can provide for such monitoring, and in practice, some of them have initiated demonstration projects in this area.

The same is true in **Spain**.

29 Main Swiss organisation for the insurance of accidents (whether occupational or not) and occupational diseases

30 French health/sickness insurance organisation (including insurance for occupational injuries)

2. Statistical inventory and problem of under-reporting

It is an established fact that occupational diseases are generally under-reported[31] and this is also true for asbestos-related diseases. This phenomenon, called "under-reporting", has the twofold consequence of distorting the statistics and hence adversely affecting the implementation of OH&S policies, and depriving the victims of their rights to compensation, which in nearly all the countries of Europe are more favourable than those granted for a non-occupational disease. In this context, the identification of reported cases on the one hand, and initiatives for detection of cases that are not yet known on the other hand, is all the more important. Mesothelioma is targeted especially, because this pathology is a good indicator of the phenomenon of asbestos-related diseases, to the extent that it is almost exclusively caused by asbestos (unlike lung cancer) and the number of cases is increasing constantly (contrary to asbestosis).

a. Inventory of asbestos-related diseases

Directive 83/477/EEC of 19 September 1983, on the protection of workers from the risks related to exposure to asbestos at work, provides in its Article 17 that "the Member States must keep a register of cases of asbestosis and mesothelioma".

The countries have chosen different methods for registering the number of cases of diseases referred to by the directive. This count can be made directly within the occupational injury insurance organisations (**Germany**, **Switzerland**), in mesothelioma registers created for the purpose (**France**, **Italy**), or else in the national cancer registers.

In **Germany**, the *Berufsgenossenschaften* run a register for all occupational diseases (BK-DOK) with detailed information about disease, diagnosis, occupation and exposure of the victim.
There is also available, since 1987, a mesothelioma register created and funded by the *Hauptverband der gewerblichen Berufsgenossenschaften* - HVBG[32], which lists the cases of asbestos-related diseases, especially mesotheliomas. The aim of this structure is to verify the anatomic pathological diagnoses by means of various histological methods and quantitative analyses of the particles present in the lungs. It also acts as advisor to pathologists at the national level and takes part in scientific research.

In **Switzerland**, the Department centralising injury insurance statistics compiles data concerning occupational diseases for the SUVA and the other insurers. SUVA, for its part, has since 1990 kept a register of work-related cancers in which appear not only the cancer cases recognised as occupational diseases, but also malignant tumour cases that are refused, and those that are detected during preventive examinations.

In **France**, a *Programme National de Surveillance du Mésothéliome* (national mesothelioma monitoring programme) was initiated in 1998. In the year of its creation it covered 17 *departments* (11 million inhabitants, or 19% of the French population). To date, its competence has been extended to 21 *departments*. Coordination of this programme was entrusted to the *Institut national de veille sanitaire* (National Institute for Public Health Surveillance).

In **Italy**, the *Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro* - ISPESL[33] has established a national register of mesotheliomas. The goal is to assess the prevalence of mesothelioma cases in Italy, to measure the impact and spread of this disease among the population, to collect information concerning past exposure to asbestos, and to search for any neglected sources of contamination.
To date, 15 regional operation centres have been set up, which unfortunately do not yet cover the entire country. The information collected comes from anatomical pathology departments, public hospital archives and the archives of private clinics and university hospital centres, mortality registers, occupational medicine departments, and the *Istituto Nazionale per l'Assicurazione contro*

31 See Survey on Under-reporting of Occupational Diseases in Europe, December 2002 - Eurogip-03/E.

32 Federation of German institutions for statutory accident insurance and prevention

33 Italian prevention organisation for health and safety at work

gli Infortuni sul Lavoro - INAIL[34] and ISPESL. The mesothelioma register contains for each case the civil status of the person, the location of the tumour, the diagnosis date and procedures, occupational case history, and information concerning any relatives of the patient who could be exposed and any places producing or handling products containing asbestos near their place of residence.

Most of the other European countries (**Austria**, **Belgium**, **Denmark**, **Finland**, **Norway, Netherlands, Sweden**) register mesothelioma cases as part of their national cancer register; in **Spain**, the cancer register is held by each region.

b. Initiatives in the search for new cases of asbestos-related diseases

To combat the phenomenon of under-reporting, **Germany**, **Finland**, **Norway**, and to a lesser extent **Austria** have adopted a proactive policy with a view to detecting new cases of asbestos-related diseases, a policy based on various methods depending on the country.

Finland is the first country to have taken such an initiative. Since 1990, the FIOH has carried out several screening campaigns in cooperation with the Finnish cancer register in order to identify workers who have been exposed to asbestos over a long period, to detect any diseases caused to them by this material and to organise their medical monitoring. Cases of occupational diseases caused by asbestos have thus been diagnosed and compensation has been paid for them as a result of these programmes. These campaigns also involved disseminating information concerning tobacco abuse, asbestos exposure and the risk of lung cancer.

Since October 1998, the **Norwegian** cancer register and the National Insurance Administration have worked together to inform certain groups of cancer patients concerning the possible work-related origin of their disease. Every 14 days, the cancer register sends to the National Insurance Administration a list of all new cases of bronchopulmonary cancer (in men) as well as new cases of mesothelioma and cancer of the ethmoid bone (in men and women). Those patients who are still alive then receive a letter containing information about the types of exposure that could cause the cancer by which they are afflicted, the economic benefits of recognition of the job-related nature of their disease, and the procedure to be followed to make a claim for recognition. These patients should inform the cancer register whether or not they intend to make such a claim (see Appendix 5).

In **Germany**, the initiative taken by the *Berufsgenossenschaften* concerning the early diagnosis of lung cancer and mesothelioma is more oriented on the quality of the screening (and not on the quantity of persons examined). Thus, the *Berufsgenossenschaften* invest in scientific research on new medical techniques for early diagnosis. There is an ongoing experiment including about 5,000 former highly exposed employees. For those persons participating in the programme, the regular medical examination offered by ZAs (see page 26) is supplemented by low-dose computed tomography and detection of biological markers.

Finally, mention should be made of a private initiative by the Hatschek factory (asbestos-cement products) in **Austria**, co-funded by the *Allgemeine Unfallversicherungsanstalt* - AUVA[35], to search, based on the company's data, for those people who have been exposed to asbestos and to have them pass screening examinations.

All these initiatives, whose purpose is highly commendable, nevertheless pose the question of the advisability of early detection of asbestos-related diseases.
Early diagnosis can be highly appropriate with respect to asbestosis and early stages of lung cancer. Screening for these diseases with conventional X-rays and/or sputum cytology does prolong life expectancy of 5 years; but it does not improve the mortality figures[36]. One hopes to get better results with low-dose computed tomography, because with this technique very small lung cancer

34 Italian organisation for occupational injury insurance

35 Austrian organisation for occupational injury insurance

36 *Cochrane Review*. Screening for Lung Cancer. 2005

cases are discovered. Of the lung cancers detected this way, 70% is operable, compared to 20% without screening.
Nevertheless, the advisability of early detection is less obvious in the case of a mesothelioma or an advanced lung cancer, because there is no effective treatment to be proposed. Hence the delicate question can be posed as to whether the victim should be informed of his (her) state of health without having any solution to offer.
In the case of pleural plaques, they generally cause no harm to the organism. But they are a definite sign of exposure to asbestos and one may wonder about the use of informing the worker. He would be left in uncertainty and anguish of a very real asbestos-related disease (late due to the latency period).
However, even if massive screening offers no certain benefits for the victim from the therapeutic point of view, it is advisable for the purpose of reparation, on condition that the patient's pathological state is serious (compensation is not paid for pleural plaques alone or for very slight asbestosis in some countries), and provided they have the strength to undertake the formalities involved in a claim for recognition.

B - Reparation

1. Compensation for asbestos victims

a. Two case studies

The following case studies do not aim to clarify the system of compensation for occupational diseases in force in each country[37], but merely to illustrate the recognition and compensation practices described in the present study.

Case 1
A man aged 55, who has worked as a carpenter and used asbestos-cement material almost daily for 30 years, is suffering from asbestosis. His gross annual wage is 18,000 euro.
The job-related nature of his illness is recognised and a 100% permanent disability rate is awarded to him. He stops work definitively and dies nine months later. We may specify that his employer is still active.

Case 2
A man aged 50 worked from 1970 to 1978 manufacturing products containing asbestos, where he was exposed to a level of 30 fibres/ml/year (his company has since gone out of business).
In 2000, he was diagnosed with lung cancer. There was no sign of asbestosis and no pleural plaques. At that date, his tobacco consumption was 20 pack-year[38].
He was operated at an early stage and had a partial ablation of a lung. Following this operation, his lung capacity was reduced by 25% but his state of health seems favourable (no signs of metastases), so that he continues to work for the same gross wage as before: 18,000 euro per year.

37 For a detailed analysis of European systems of compensation for occupational injuries, see Accidents at Work and Occupational Diseases: flat rate or full reparation? European survey on the conditions of compensation for the victims - June 2005 - Eurogip- 21/E

38 See footnote 9.

Case 1: Asbestosis

Country	Compensation granted to the victim for permanent disability	Compensation granted to legal beneficiaries		
	Amount of monthly pension and/or of the lump sum and nature of compensated damage	Funeral expenses (maximum amount)	Monthly widow's pension (aged 50 years and earning 12,000€/year)	Monthly pension for a sole orphaned child (aged 17 years)
Germany	€1,000 (loss of earning capacity)	€4,140	€600	€300
Austria	€1,285 X 14 per year (loss of earning capacity)	€1,200	€257 X 14 per year	€257 X 14 per year
Belgium	€1,500 (loss of earning capacity)	€1,479	€450	€225
Denmark	€1,200 (loss of earning capacity) Lump sum of €86 450 (physiological damage)	None	€1,357 during 1 year : €422 during the following 2 years	€150
Spain	€1,500 (loss of earning capacity)	€30	€780	€300
France	€1,500 (loss of earning capacity) + full compensation granted by FIVA[39]	€1,258	€600 + "inheritance action" by the legal beneficiaries[40]	€375
Italy	€1,650 (loss of earning capacity) €1,226 (biological damage)	€1,663	€750	€300
Norway[41]	€1,292 + lump sum of €91,875 (loss of earning capacity) Lump sum of €52,860 (or monthly pension of €386) + lump sum of €29,250 (physiological damage)	€3,794	€860 + lump sum of €72,088 if the lump sum of €91,875 was not granted to the alive victim	€253 + lump sum of €11,381 if the lump sum of €91,875 was not granted to the alive victim
Netherlands	€1,050 (social risk)	€2,020	-	-
Portugal	€1,419[42] (loss of earning capacity)	€1,498	€385	€257
Sweden	€1,500 (loss of earning)	€1,300	€300 during 1 year	€600
Switzerland	€1,200 (loss of earning capacity)	€2,051	€600	€225

NB: In some countries, it is only the loss of earning capacity that is theorically compensated; but in practice, the calculation is done according to an indicative scale, basically medical.

39 FIVA : *Fonds d'indemnisation des victimes de l'amiante* (Asbestos Victim Compensation Fund, see page 33)

40 The "inheritance action" is filed by the legal beneficiaries as continuators of the deceased. It is to be distinguished from the personal action which implies for the legal beneficiaries to prove their own damage.

41 In Norway, a private insurance paid for by the employer complements the social insurance system, so as to ensure full compensation for damage.

42 Of which a bonus of €214 because the victim is over 50 and suffers from a total permanent disability, and a bonus of €133.93 because the victim suffering from a total permanent disability has a dependant child.

Case 2: Lung cancer

Country	Recognition of the job-related nature of the disease		Compensation		Possibility of early retirement[43]
	Is it an OD?	Influence of the smoking factor	Amount of monthly pension and/or of the lump sum and nature of compensated damage	Possibility of pension in addition to wage	
Germany	yes	no	€1,000 (loss of earning capacity) €600 if after a few years revision of the permanent disability fixed at 60%	yes	no
Austria	yes	no	€514.25 X 14 per year (loss of earning capacity)	yes	no
Belgium	yes	no	€1,500 for the first year (loss of earning capacity) €500 afterwards (except if aggravation of disease)	yes	no
Denmark	yes	benefits reduced by 50%	Lump sum of €12,965, reduction for smocking included (physiological damage) The case will be examined again 6 months later	-	no
Spain	yes	no	no compensation since permanent disability < 33%	-	no
France	Examination in the framework of complementary system because duration of exposure < 10 years	no	€750 (loss of earning capacity) for a PD rate of 67% (minimum rate for lung cancer in the indicative scale) + full compensation granted by FIVA	yes	yes - monthly allowance of €975 (in addition to pension)
Italy	yes	positive influence on recognition	€298 (loss of earning capacity) for a PD rate of 30%: €210 (biological damage)	yes	no, because duration of exposure< 10 years
Norway[44]	yes	no	Lump sum of €11,003 or monthly pension of €74 + lump sum of €6,980 (physiological damage)	-	no
Netherlands	Declared as OD	yes[45]	-	-	no
Portugal	yes	no	€180 (loss of earning capacity)	yes	no
Sweden	No, because no loss of earning	-	-	-	no
Switzerland	yes	no	Lump sum between €14,000 and €35,000 depending on the damages (bodily harm) for a PD rate of 33% (reduction of pulmonary capacity, but also pulmonary scar, pulmonary pain or thorax distortion)	-	no

NB: In some countries, it is only the loss of earning capacity that is theorically compensated; but in practice, the calculation is done according to an indicative scale, basically medical.

PD rate = permanent disability rate

43 In all countries, it is obvious that if the victim's condition worsens, it will be examined if he/she is allowed to stop working and go into retirement; in this table, it is the possibility of an early retirement according to the circumstances described in the wording of the case study which is considered.

44 In Norway, a private insurance paid for by the employer complements the social insurance system, so as to ensure full compensation for damage.

45 It is within the legal framework (action for damages by the victim against his (her) employer) that the tobacco abuse factor is taken into account, according to the rule of "proportional responsibility": a model designed by epidemiologists enables "cigarette consumption" data (expressed in pack-year) and "asbestos exposure" data (expressed in fibre-years) to be combined so as to deduce from this the proportion of each of these factors in the causal chain.

In light of the information provided, it seems that benefits do not differ much from one country to another. But the case studies show certain specific features of asbestos-related occupational diseases: allowance for the tobacco abuse factor in the recognition and compensation procedure in **Denmark**, the possibility for the victim to obtain specific compensation in **France** and the **Netherlands**, and the possibility of early retirement, in **France** and **Italy**.

b. Specific compensation systems

In general in Europe, asbestos-related diseases are compensated for in the same way as all other occupational diseases. There are few exceptions: the **Netherlands** and **France** have chosen to introduce a derogatory compensation system for asbestos-related diseases, and **Sweden** offers improved benefits.

In the **Netherlands**, a specific compensation system was established in 2000, so as to reach rapidly a fair agreement for compensation of workers who have been exposed to asbestos and suffer from a mesothelioma. It is true that there exists no specific insurance against occupational injuries in this country, and in the 1990s hundreds of people went to court to sue their (former) employer.
This specific system concerns only cases of mesothelioma, and it is applicable both to the workers and to their close family living with them. In the event of the victim's death, his (her) legal beneficiaries (by order of priority, spouse or common law spouse, a child who is a minor and a person supported by the victim) can also benefit from this; but to receive the compensation in full, or for the claim to be acceptable in the event that the employer of the deceased victim no longer exists, a claim for compensation must have been made by the victim during their lifetime. Failing that, only compensation for material damage will be awarded to the survivors.
It is the *Instituut Asbestslachtoffers* - IAS (Institute for Asbestos Victims), created at the same time as the compensation system, that is responsible for application of the system. Management of this institute has been entrusted jointly to the *Comite Asbestslachtoffers* (Committee of Asbestos Victims, see page 36), to various employers' and trade union organisations, to the insurance companies' association and to the government.
This organisation acts as a mediator between the claimant and his (former) employer owing the compensation. For the victim's claim to be able to be accepted, the enquiry carried out by the IAS must conclude as to the employer's responsibility. This responsibility is in practice often established (see criteria defined by case law, footnote 52). This explains why it is in employers' interest to use this mediation system rather than incur a legal action. The cost of this mediation no doubt has to be paid by them, but the amount of compensation is defined beforehand. The application of this system deprives the victim of all rights to legal recourse, but is perfectly compatible with the benefits for loss of earning capacity provided for within the framework of social insurance systems (covering disease or disability).
In terms of compensation, the lump sum provided for people whose employer still exists at the time of the proceedings is currently 52,701 euro: 47,429 euro for repair of moral prejudice, 2,636 euro for material damage and 2,636 euro for funeral expenses. While the amount of the compensation for moral prejudice is fixed, the other two sums can be increased depending on the specific situation of each claimant.
The victims of mesotheliomas whose employer no longer exists can claim only a minimal compensation of 16,476 euro. This is the case for many people employed in small insulation businesses and in shipyards.
In all cases, settlement is normally made within six months following the claim for compensation, and it is possible to obtain advance payment of an amount equal to the minimum compensation. The sums indicated above are re-assessed each year.
In 2004, 271 people filed a claim with the Institute for Asbestos Victims. In 46% of cases, the ruling handed down led to compensation.

France has also created in December 2000 a specific compensation system for asbestos victims, via the Asbestos victim compensation fund (*Fonds d'Indemnisation des Victimes de l'Amiante* - FIVA) effective in April 2002. It is a public organisation, managed by the State, the C*aisse nationale d'assurance maladie*[46], the social partners and victims' associations. It is funded by occupational injuries insurance and the state.

46 French health/sickness insurance organisation (including insurance for occupational injuries)

The objective of this system is to ensure full reparation of the damage sustained by victims, sparing them long, difficult legal proceedings. It is intended for people who are victims of diseases due to exposure - even non-occupational - to asbestos, and their legal beneficiaries. In 95% of cases, the victims are recognised as suffering from an occupational disease.
To obtain compensation, the victim must provide evidence of his (her) exposure to asbestos and of damage to his (her) health. The fact of suffering an occupational disease due to asbestos amounts to evidence of asbestos exposure. At present, about 60% of the people receiving compensation from FIVA are suffering from a benign illness (such as pleural plaques), and 20% from a mesothelioma or lung cancer.
In accordance with the principles of full reparation (i.e. that granted within the civil law framework), compensation is paid, usually in the form of a lump sum, for the pecuniary damage (functional disability, lost earnings, costs resulting from the illness) and the non-pecuniary damage (moral and physical prejudice, loss of amenities of life, aesthetic prejudice). An indicative scale specific to the FIVA is used to assess the amount of compensation for the functional disability, and the criteria taken into account are the type of disease and the age of the victim. For example, a 65-year-old man affected by pleural plaques can claim payment of a lump sum of 19,000 euro (for a 5% disability rate), and 14,000 euro as compensation for his non-pecuniary damage. The same victim suffering a mesothelioma will receive an annual pension of 16,240 euro, plus a lump sum of 100,000 euro.
The Fund has six months to present to the claimant a compensation offer containing the list of damage and details of the corresponding sums.
The victim (or their legal beneficiaries) who makes a claim for compensation to the FIVA and who accepts the latter's offer waives all right to current or future legal action for reparation of said damage. In case of acceptance, the FIVA is then subrogated to the rights of the victim and is required to take action for reparation against the person or entity responsible for the damage, especially in the context of an inexcusable fault (see page 37). In practice, only 750 such actions have been brought by the FIVA since its creation.
From its establishment until the start of 2005, the FIVA has presented more than 14,500 offers for compensation (it has received 700 claims per month on average since 2004).

There has been in **Sweden**, since 1984, a specific system of compensation for people affected by asbestos-related pleural plaques. An initial agreement provided for a flat rate compensation of 1000 euro for cases of pleural plaques appearing between 1st January 1974 and 5 June 1985. The amount of this compensation is now 1900 euro. In 1987, a condition was introduced for the award of this sum: the worker must have sustained a 15% reduction in his (her) lung capacity, which must be observed before age 65.
Since 1993, it is the complementary system AFA[47] that provides coverage for cases of pleural plaques appearing since 5 June 1985.

2. Early retirement systems

Only two European countries have created an early retirement system for workers exposed to asbestos, considering it necessary to compensate for the loss of life expectancy faced by those persons.

The first is **Italy**: In 1992, the law prohibiting the use of asbestos in this country has also provided for the introduction of an early retirement system for people who have been exposed to asbestos in their occupation. The conditions are that one have paid into the retirement insurance system for at least 30 years and that one be able to prove intense exposure to asbestos for at least 10 years. The individual examination of this second condition is to be performed by the *Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro* - INAIL[48], which has to issue a certificate of exposure to the claimant[49].

47 The AFA Trygghetsförsäkring is a compulsory conventional complementary insurance whose role is to supplement the compensation for lost earnings awarded by the social insurance organization.

48 Italian organisation for occupational injury insurance

49 In practice, the decision to issue this certificate or not has been the subject of abundant case law; generally, the first two court levels have handed down rulings favourable to the claimant, and the supreme court of appeal has made rulings in support of INAIL (due to lack of evidence of the intensity of exposure).

The candidates for this system receive a bonus for each year of exposure, because the number of years was multiplied by a factor of 1.5, a factor which was reduced to 1.25 at the end of 2003. Since this revision, the factor of increase is used only to increase the amount of the retirement pension, and no longer to enable the worker to stop work through early retirement.
Recently, this system was modified again: the condition relating to the intensity of exposure over a ten-year period was defined more restrictively than before, in the sense that the insured must now provide proof of an exposure of 100 fibres/litre during 8 hours a day for at least 10 years. This initiative is strongly criticised, because in practice this proof will be impossible to establish in the absence of analyses of work environments in the past.
From 1992 to June 2005, more than 600,000 claims can be counted, a large part of which were filed recently, just before the date of modification of the system (the last claims had to be filed with the INAIL prior to 15 June 2005). 141,484 received certification from INAIL, and over half of the claims have not yet been dealt with.

In **France**, a system of early retirement for asbestos workers has made it possible, since 2 April 1999, for employees or former employees (including those under the farm retirement system)[50] who could have been exposed to asbestos to benefit from early retirement provided that they meet several conditions.
These people must be affected by a recognised occupational disease caused by asbestos (asbestosis, mesothelioma, lung cancer, benign pleural tumour and pleural plaques), or else have worked in certain establishments manufacturing materials containing asbestos, performing limpet spraying and thermal insulation with asbestos, or else have performed certain jobs in certain ship repair or shipbuilding firms (the lists classifying these various types of establishment are defined by decree and are regularly extended). The employees or former employees must also be aged at least 50 to benefit from this system.
The early retirement age depends on the number of years' exposure, except for those people recognised as suffering from an asbestos-related occupational disease, who are eligible for the system as of age 50.
An ad hoc allocation is in that case paid to the beneficiaries until they meet the conditions to receive a retirement pension at the full rate. The Fund created to manage this system is funded basically by the occupational injuries insurance system and by the state.
In five years, more than 33,000 early retirement claims have been accepted, and in 2004 the number of those benefiting from the allocation was 27,409.
It should be specified that, the funding of this system being in peril and its operation criticised, the Early Retirement Fund is likely to be reformed in 2006.

3. The politico-legal aspects of asbestos-related diseases

In **Belgium**, legal claims against their employers by people affected by an asbestos-related disease are currently non-existent. This is for the simple reason that this is not possible under Belgian law.
An order of the Brussels Court of Appeal dated 2 November 1998 dismissed the first - and to date the sole - plaintiff suffering from a mesothelioma and gave a reminder that civil liability claims against one's successive employers was possible only if the latter had committed an intentional fault. Now, the fact of having exposed employees to asbestos without having first informed them of the danger and without having provided them with protective equipment constitutes serious negligence, but not an intentional fault. A law of 1999 indeed extended the possibility of such claims against employers who might have seriously neglected their health and safety obligations despite a written warning from the Labour Inspectorate, but these conditions are so restrictive that they have never yet found an occasion to be applied.
A second legal obstacle prevents this type of claim: the right for occupational disease victims to take action against their employer is subject to a limitation period of 20 years since their last exposure to the pathogenic agent. Now, asbestos-related diseases such as mesothelioma are characterised by a very long latency period (30 to 40 years).
Following legal action taken in 2000, and for the first time by a person harmed by environmental asbestos exposure causing a mesothelioma, the Belgian association of asbestos victims (*Association Belge des Victimes de l'Amiante* - ABEVA) was created. This association, which since its creation has

50 Systems of the same type have been set up by SNCF (French Rail) and certain government departments.

supported asbestos victims and their families and is trying to convince the *Fonds des Maladies Professionnelles*[51] to shorten the times taken to process claims for compensation, has also been campaigning for legislative changes which would enable victims to obtain full reparation for their damage (like the French model). The ABEVA also demands the removal of intentional fault as a condition for a claim against the employer, or at the very least for a less restrictive interpretation of this concept.
In response to these demands, a new bill was filed in July 2004 for the creation of an asbestos victim compensation fund, but it was rejected.

In the **Netherlands**, the problem of asbestos-related diseases was above all of a legal nature. These diseases are the first occupational diseases for which legal claims have been made for compensation. It should be remembered that this country has no specific social insurance for occupational injuries. Therefore, workers who want to obtain more than what is granted by the sickness or disability insurance systems - even though their benefits are considered favourable to the insured - have as their only recourse legal action against their employer.
Between 1990 and 2000, the number of claims increased considerably. This increase in the number of claims can be explained first by the growing number of workers suffering from asbestos-related complaints: over 300 cases of mesothelioma are diagnosed each year. But the support provided by the *Comite Asbestslachtoffers* (Committee for Asbestos Victims) for these people as of its creation in 1995, and the fact that numerous proceedings have had results favourable to the victims, has also encouraged this trend.
During the 1990s, about one thousand complaints were handled by lawyers, but most were settled with the employer on a friendly basis. The number of cases decided by the courts is estimated at 125.
These cases were brought on the basis of Article 7:658 of the Dutch Code of Civil Law, under which the employer is required to watch over the health of his employees. He is responsible for damage to health if he has not taken adequate health and safety measures. The victim must provide proof of his (her) asbestos exposure, and concerning the employer's failing in his duty of protecting employees, he (she) has only to give general information. Case law has pushed the onus of proof onto the employer, who must demonstrate that he had, at the time of the events, brought together the necessary information concerning the control measures to be considered to protect the health of his employees, and that he had indeed taken sufficient measures[52].
In 1995, the Dutch Socialist Party created the Committee of Asbestos Victims, which received support from the trade union organisations and the media. Its aim is to help asbestos victims, especially with the procedures to obtain compensation.
The action of this Committee, but also the legal deviations of the 1990s, political pressures, and the widespread feeling that the State (as legislator and employer) had not reacted in time after becoming aware of the highly carcinogenic effect of asbestos, led in 2000 to the creation of the Institute for Asbestos Victims and a specific system of compensation for victims of mesothelioma (see page 33). Since then, the number of legal claims for occupational exposure to asbestos has declined significantly. But more recently, attention has focused on the problem of environmental exposure, and the courts have already handed down several rulings in favour of plaintiffs.

In **Italy**, the legal aspect of the question of asbestos-related diseases is characterised by the fact that legal action taken by victims in court against their employers is not merely of a civil nature but also in many cases of a criminal nature.
The specific features of criminal procedures should be specified here: the action is taken against natural persons (managers) and not artificial persons (companies); it is the Public Ministry that bears the onus of proof (and not the victim); finally, in case of conviction, criminal penalties such as fines and imprisonment are pronounced, and not a sentence to pay damages.
Currently, several trials are under way in Padua, Genoa, Turin, Venice, Tuscany and Syracuse, against managers of transport firms, shipyards, and firms manufacturing tyres and asbestos building materials. The INAIL has claimed damages in these various proceedings. One of these cases already

51 Belgian organisation for occupational disease insurance

52 Several Supreme Court orders which led to conviction of the employer have defined the extent of the employer's obligation by specifying the type of measures that ought to have been taken to protect workers from asbestos exposure. Moreover, the *Cijsouw-De Schelde* order of 1993 asserted that the employer was responsible even if he claimed not to have been informed of the risk at the time of the events, and two 1998 orders specified that 1949 should be considered as the year from which employers ought to have been aware of the danger resulting from asbestos exposure.

led in 2005 to the manager of a company of the Eternit group being found guilty, but the sentence has not yet been handed down.
There are also numerous civil liability claims. On 14 January 2005, for example, the Court of Cassation rejected the appeal of the national rail transport firm (*Ferrovie dello Stato-FS*), which had been sentenced to pay compensation to a worker exposed to asbestos between 1959 and 1971. The court considered that the firm was responsible for the victim's disease because it had not taken measures to protect its employees in due time, whereas the carcinogenic consequences of asbestos had been known scientifically since at least the start of the 1960s. The court gave a reminder that FS was a large firm having health monitoring services, which suggests that the ruling could have been milder if the employer had been a small or medium-sized business which could be less well informed concerning the risks and the protective measures to be taken. A decision by the criminal chamber of the Court of Cassation in 2003 had earlier set 1965 as the date following which information on the harmfulness of asbestos was disseminated broadly.

Moreover, the phenomenon of claims by Italian victims goes far beyond the country's borders. In particular, throughout the 20th century, many Italians emigrated to find work. Recently, the question has been posed as to compensation for certain Italian workers suffering from mesothelioma and who had been exposed during their occupational activity abroad, especially in **Switzerland**. An agreement between SUVA[53] and INAIL signed in 2005 solved this transnational problem. On the other hand, there are still disagreements between these two countries concerning legal action for unintentional homicide taken in Italy by several hundred workers against the former owner of a large Swiss asbestos-cement group, whose Italian subsidiaries were declared bankrupt in 1986.

In **France**, it seems that the 2002 establishment of a specific system of compensation for asbestos victims (see page 33) has been unable to hold back the growing number of legal claims brought by victims against their employers.
A legal amendment has encouraged this trend: a series of rulings by the social chamber of the Court of Cassation, dated 28 February 2002, brought about a change in the concept of "inexcusable fault"[54]. For example, the Court found guilty of an inexcusable fault employers who had exposed their employees to risks related to the inhalation of asbestos dust. It considered that on the grounds of the work contract binding him to his employee, the employer is bound to the latter by virtue of a "strict liability" to execute his/her contractual (safety) obligation - and not bound only by a duty to make "reasonable endeavours" -, especially as regards occupational diseases caught by the employee as a result of products manufactured or used by the firm, and that a "failing in this duty is of the nature of an inexcusable fault […] when the employer was or ought to have been aware of the danger to which the employee was exposed".
The consequence of this ruling was to make it easier to convict employers, hence encouraging an increase in the number of civil liability suits: for example, the number of judgements tripled in 2003 relative to the preceding year, and there were more than 1500 judgements for the year 2004. Moreover, 98% of the sentences handed down that year recognised the inexcusable fault of the employer. The continuing occurrence of this type of dispute in spite of the creation of the Asbestos victim compensation fund (FIVA) can be explained as follows: on the one hand, the victims may be psychologically sensitive to the conviction of their employer; on the other hand, court decisions, although they vary throughout the country, generally grant larger sums than those awarded by the FIVA.
While civil claims by asbestos victims are often successful, this is not the case for criminal claims. Very recently, on 15 November 2005, the criminal affairs chamber of the Court of Cassation rejected the appeal by relations of victims who died of an asbestos-related disease and finally confirmed the non-suit that had been pronounced a year earlier. The Court of Appeal considered that "the government having been slow to become aware of the extremely dangerous nature of asbestos, the company managers sentenced for having exposed employees to this material could not be held liable.

53 Main Swiss organisation for the insurance of accidents (whether occupational or not) and occupational diseases

54 This concept, specific to French Law, is an exception to the principle of civil immunity enjoyed by the employer within the framework of social insurance against occupational injuries. If the inexcusable fault of the employer is recognised, victims (or their legal beneficiaries) can benefit from better compensation than that provided for in the context of the ad hoc social insurance (increase in pensions, allowance for non-pecuniary damage, inheritance action by the legal beneficiaries).

However, the Court of Cassation, which declared the suit inadmissible (the prosecution had not supported the appeal by the families) and therefore did not examine the substance of the case, specified that it could in future have to define the conditions of criminal liability of employers when examining other appeals. Indeed several dozen criminal suits against employers have been brought by victims since 1996 for poisoning, homicide or intentional injuries. Some ended up as non-suits, but most are undergoing investigation.
But the employers have not been sued alone for liability for the extent of asbestos-related diseases; on 3 March 2004, for example, the *Conseil d'État*[55] asserted the responsibility of the state, confirming a ruling by an administrative court which had sentenced the state on the grounds of fault due to failure to act in the area of prevention of risks related to occupational exposure to asbestos. A failure to act by the state which is also noted in an informative report by the Senate dated November 2005[56].
It should be added that civil society has taken hold of the asbestos question in a very active manner, so as to exert pressure on the public authorities. The national association for the defence of asbestos victims (ANDEVA), as of its creation in 1996, demanded, among other things, an improvement in the system of compensation for asbestos-related diseases, which contributed to the establishment of the asbestos victim compensation fund (FIVA). This powerful association now has about 7000 members.

It seems that associations of asbestos victims and several trade union organisations are finally starting to become coordinated on the European level. The main aim is to raise awareness by the European Commission and the European Parliament of the need for the Union to ensure adequate compensation for all asbestos victims in Europe.

55 Higher Administrative Court

56 DERIOT G, GODEFROY JP. Rapport d'information fait au nom de la mission commune d'information sur le bilan et les conséquences de la contamination par l'amiante ; Tome I - Rapport ; Tome II - Auditions. Paris : Sénat, 2005

PART 4

Estimate of the mortality from pleural mesothelioma in Europe

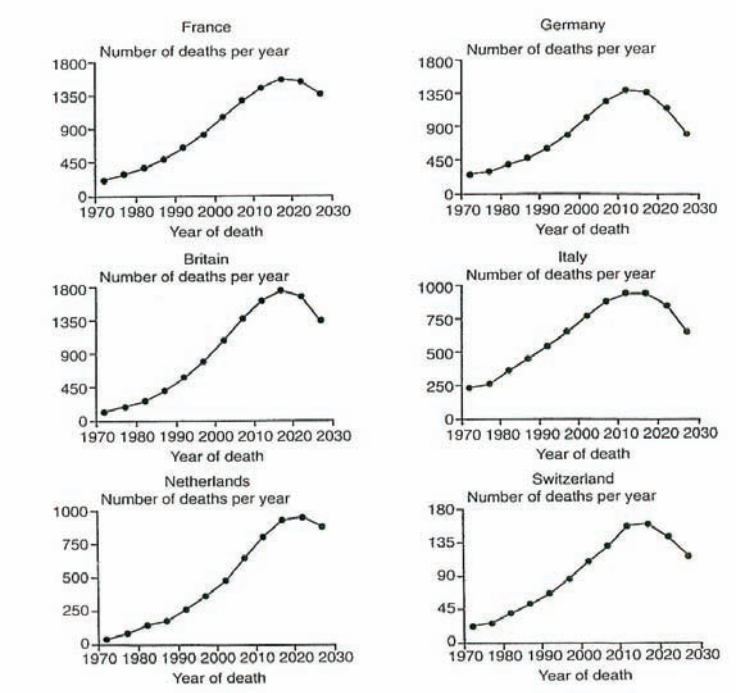
In 1999 Peto et al[57] published a study in which a European mesothelioma epidemic was forecast with between 1995 and 2029 about 250,000 deaths in Western Europe with a peak around 2018.
Since then data about the real development of mesothelioma mortality in different European countries in an additional five years have become available and predictions of mortality been updated. Studies of the update of predictions in different countries and a study of the European Cancer Registries have been carried out. Uncertainties in the modelling techniques are discussed. The previous predictions are changed into less unfavourable scenarios; in some countries the incidence of mesothelioma fortunately has been stabilised or even lowered.

About Pleural Mesothelioma
This cancer is uniformly fatal, and characterised by progressive breathlessness and unremitting pain in the chest wall. From the onset of symptoms, survival is from a few weeks to a few years. The mean age at diagnosis is around 60 years.
Desperation by patients and doctors has driven a search for effective treatment. Nevertheless, clinical benefits are marginal; radical treatments, occupying the three months after diagnosis, can take up the best 3 months that the patient might have had (Treasure and Sedrakan[58], 2004).

The Peto study

Models to predict future incidence of mesothelioma[59] involve asbestos type, dose time since first exposure. Projections can also be based on a demographic age and birth cohort model or on a combination of the two. In the figure the predictions in some European countries from the Peto study are shown

Graph 5: Predictions of mesothelioma mortality in some European countries



57 PETO et al. The European mesothelioma epidemic. *Br J Cancer*. 1999, 79 : 666-72

58 TREASURE T, SEDRAKYAN A. Pleural mesothelioma: little evidence, still time to do trials. *Review Lancet*. 2004, 364: 1183-85

59 Number of newly diagnosed mesotheliomas occurring in a specified population during a specified period of time

After the study of Peto et al others used comparible or more sophisticated models to predict national trends: in Denmark Kjaergaard and Andersson[60] (2000) analysed data from the Danish Cancer Registry and used a birth-cohort model to predict future trends: they expect a maximal incidence rate around 2010. The use of asbestos was banned in Denmark in 1980 (except for asbestos-cement products).
In France, Banaei et al[61] (2000) added the *background risk* [62] to the excess risk due to the lifetime cumulative asbestos exposure. They predict a peak around 2030 of 800-1,600 deaths annually among men aged 25-89 years, and a peak around 2020 of 1,550 deaths annually among men aged 40-84. The peak of asbestos imports was in 1975 and decreased rapidly afterwards until an asbestos ban in 1996.

Updates of predictions of mortality
There are a number of recent studies in which more years of observed mortality are added in the models which predict future trends. All these studies alter their predictions in lower future death toll.
Berry et al[63] (2004) reported on the fate of the Australian crocidolite mine workers from the Wittenoom mine and mill, which was closed in 1966. In 2000, 3.4 % of all the former male workers died from mesothelioma. The number of deaths in men with mesothelioma between 1987 and 2000 was at the low end of the previous predictions. An explanation could be that the elimination rate of crocidolite from the lungs is better than assumed.
In the Netherlands, Segura et al[64] (2003) significantly changed predictions from 5 years before: there are 44% less mortality cases now that five recent years of observation are added to the model.

Uncertainties in modelling techniques
The models used to predict mortality from pleural mesothelioma are based on different items: age, year of birth (cohort effect), year of death (period effect) and asbestos use in time, based on import figures. In some countries the statistics of mesothelioma incidence are less reliable than in others. This can be caused by differences in quality and intensity of medical care, diagnostic precision and medical statistics (only in some countries there is a nationwide Cancer Register and a Mesothelioma Register). One may also question the import figure of asbestos as a reliable marker of exposure; working conditions tend to improve in time and differ between countries. All this makes modelling techniques and comparisons between countries questionable.

Decline in mesothelioma incidence in some countries
In the USA, peak mesothelioma incidence occurred in the early to mid-1990s and has likely started to decline since then (Weil et al[65], 2004). Data from representative cancer registers throughout the USA were analysed. In this study the recent gradual decline of mesothelioma incidence is shown. This is probably primarily related to reduction in amphibole (crocidolite and amosite) use since its peak importation into the USA in the 1960s.

60 KJAERGAARD J, ANDERSSON M. Incidence rates of malignant mesothelioma in Denmark and predicted future number of cases among men. *Scand J Work Environ Health*. 2000, 26(2):112-7

61 BANAEI A, AUVERT B, GOLDBERG M et al. Future trends in mortality of French men from mesothelioma. *Occup Environ Med*. 2000, 57: 488-494

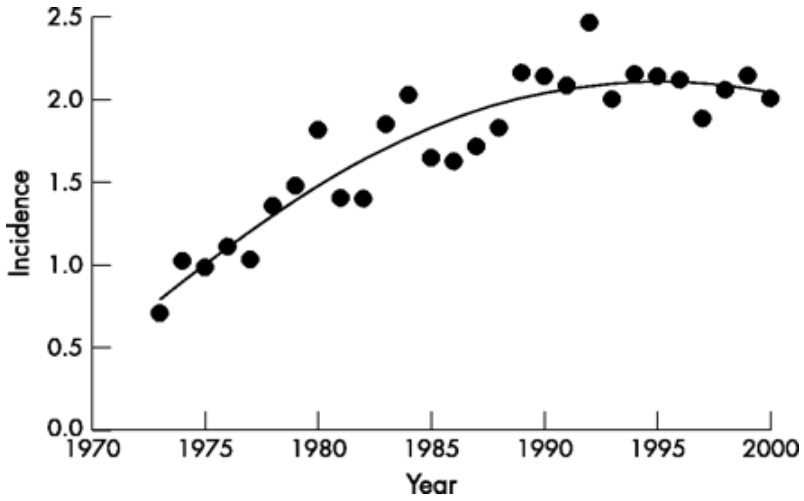
62 Risk of suffering from a mesothelioma without having been exposed to asbestos.

63 BERRY G, KLERK NH, REID A et al. Malignant pleural and peritoneal mesotheliomas in former miners and millers of crocidolite at Wittenoom, West Australia. *Occup Environ Med.* 2004, 61

64 SEGURA O, BURDORF A, LOOMAN C. Update of predictions of mortality from pleural mesothelioma in the Netherlands. *Occup Environ Med.* 2003, 60: 50-55

65 WEILL H, HUGHES JM, CHURG AM. Changing trends in US mesothelioma incidence. *Occup Environ Med.* 2004, 61: 438-441

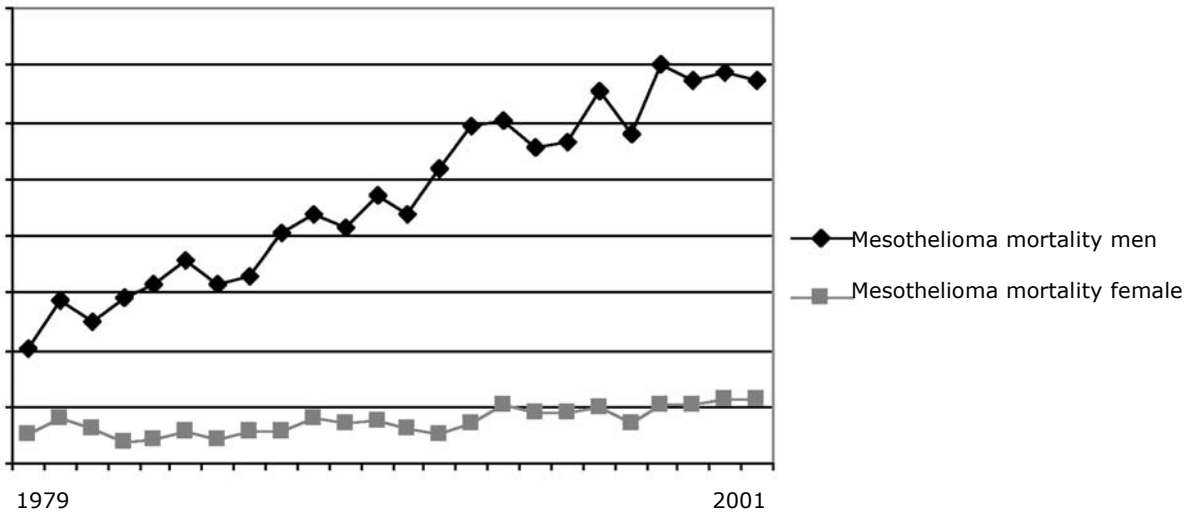
Graph 6: Mesothelioma mortality Incidence per 100,000 inhabitants in the USA, 1970-2000 (Weill et al, 2004)



In **Sweden** the mesothelioma incidence has levelled off[66]. Since Sweden was one of the first countries in which preventive measures in asbestos use were taken one would indeed expect that it would be one of the first countries in which this effect becomes visible

Mortality figures from the Netherlands show the same trend (see Graph 7).

Graph 7: Mesothelioma mortality in the Netherlands, 1979-2002 (source: Netherlands National Institute of Statistics)



66 HEMMINKI K AND LI X. Mesothelioma incidence seems to have levelled off in Sweden. Int J Cancer 2003; 103: 145-6

Ecological analysis

The latency period (time between first exposure and clinical manifestation of the tumour) is around 32 years (Lanphear and Buncher[67], 1992). In a German study a latency period of more than 30 years was found with a trend towards shorter latency periods with higher asbestos burden and consequently relative younger age at diagnosis (Neumann et al[68], 2001).

In a recent analysis based on aggregated data from nine countries, the mean induction period (use versus morbidity at society level) is estimated approximately at 25 years (Nurminen et al[69], 2003). Around 25 years after the peak in asbestos use in a country the peak in mesothelioma mortality appears. This ecologic analysis, in which no assumptions are made for the future, appears to be a more realistic starting point for predictions than the more complex models used by other epidemiologists.

Conclusions

Recent studies show that the epidemic of mesothelioma in Europe has a less dramatic course than was predicted by Peto in 1999. It seems that the increase in mesothelioma incidence in the coming years or even decades will stop earlier, especially in Northern Europe where measures to reduce the occupational exposure were taken in the 1970s.

As mesothelioma is considered to be the most sensitive and specific indicator of the adverse effects of airborne exposure to asbestos fibres, one may expect the same trend for other malignant asbestos-related diseases such as lung cancer.

Although the figures seem better than before, the overall burden of asbestos health effects in Europe is dramatic since the total number of deaths from mesothelioma could be around 100,000.

67 LANPHEAR BP, BUNCHER CR. Latent period for malignant mesothelioma of occupational origin. J Occup Med 1992; 34: 718-21

68 NEUMANN V, GÜNTHER S, MÜLLER KM, FISCHER M. Malignant mesothelioma. German mesothelioma register 1987-1999 Int Arch Environ Health (2001) 74: 383-395

69 NURMINEN M, KARJALAINEN A, TAKAHASHI K. Estimating the induction period of pleural mesothelioma from aggregated data on asbestos consumption. J Occup Environ Med 2003; 45: 1107-11

Appendixes

Appendix 1: Recognition criteria for abestosis

Appendix 2: Recognition criteria for lung cancer caused by asbestos

Appendix 3: Recognition criteria for mesothelioma

Appendix 4: Recognition criteria for pleural plaques

Appendix 5: NORWAY Cooperation between the Cancer register and the Insurance organisation

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Explanation of the acronyms and references used in the appendixes

CT = computed tomography

HRCT = high-resolution computed tomography

ILO classification (International Labour Organization): international classification of pneumoconiosis comprising 22 typical films illustrating the classification of small and large parenchymatous opacities, pleural abnormalities and certain other abnormalities.

Helsinki Criteria (asbestos exposure)

- at least 1 year if major exposure (job in an asbestos-cement factory, demolition work involving definite exposure to asbestos or direct handling of asbestos).
- from 5 to 10 years if moderate exposure (for example, work in the docks in a confined space, regular work in contact with asbestos-cement roofs, plumbing work implying regular exposure to asbestos and the work of mechanics having to change truck brake linings frequently; work performed indoors counting for more than work performed outdoors, direct exposure for more than indirect exposure).
- or exposure calculated as at least 25 fibres/cm3 per year, i.e. an exposure equivalent to at least 1 fibre/cm3 over 25 years or 2 fibres/cm3 over 12 and a half years.

According to *Scand J Work Environ Health*. Asbestos, asbestosis and cancer: the Helsinki criteria for diagnosis and attribution. 1997 Aug, 23: 311-316

Appendix 1: recognition criteria for asbestosis

Country	Medical criteria	Criteria for asbestos dust exposure	Latency period
Germany	Fibrosis of lung proved by X-ray examination (according to the ILO classification) or by CT/ HRCT	many years	10 years minimum
Austria	Fibrosis of lung proved by X-ray examination (according to the ILO classification) or by CT	definite extensive exposure	usually 10 years minimum
Belgium	Diffuse pulmonary fibrosis proved by X-ray examination or CT + histological observations or exposure criterion	Cumulated exposure ≥ 25 fibres/ml-years (confirmed by investigation or mineralogical analysis)	10 years minimum
Denmark	Fibrosis of lung proved by X-ray + restrictive reduction in lung function and/or reduction in diffusion capacity (in case of any doubt, an HRCT examination can clarify the diagnosis)	Helsinki criteria	-
Spain	Clinical histology, X-ray examination	definite extensive exposure (indicative list of jobs)	usually 10 years
Finland	Pneumoconiosis consistent with asbestosis proved by imaging study (X-ray, CT or HRCT if necessary). The asbestos particles identified in the bronchoalveolar lavage fluid or in histological specimens, as well as in the pulmonary tissue can be tools to evaluate the exposure to asbestos. Diagnosed pleural plaques normally precede asbestosis.	intense exposure of at least 1 year in, e.g., asbestos insulation or asbestos spraying work, or 10 years in work subject to exposure, such as construction work	-
France	Pulmonary fibrosis diagnosed on specific radiological signs, whether or not there are modifications in the pulmonary function tests	2 years (indicative list of jobs)	liability period: 35 years at most after the end of exposure
Italy	- X-ray examination, HRCT - Spirometry, blood test, electrocardiogram	definite extensive exposure (indicative list of jobs)	-
Norway	Pleura or lung proved by X-ray examination (according to the ILO classification)	definite extensive exposure	10 to 15 years depending on the length of exposure
Portugal	X-ray examination and CT	indicative list of jobs	10 years
Sweden	2 of the following criteria: - lung physiology indicative of restrictive disease - chest X-ray with interstitial changes - persistant end-respiratory crepitations	definite extensive exposure	10 to 15 years depending on the intensity of exposure
Switzerland	clinical and radiological observations, possible additional tests (bronchoalveolar lavage)	definite extensive exposure	-

Appendix 2: recognition criteria for asbestos-related lung cancer

Country	Medical criteria	Criteria for asbestos dust exposure	Latency period
Germany	- Lung cancer associated with an asbestosis (from an histological point of view, even a minimal asbestosis is sufficient) or important alterations of the pleura caused by asbestos - Alternative condition: see "exposure criteria"	exposure of 25 fibres/ml-year (alternative condition to medical criteria)	10 years at least
Austria	- Lung cancer associated with an asbestosis (from an histological point of view, even a minimal asbestosis is sufficient) or important alterations of the pleura caused by asbestos - Alternative condition: see "exposure criteria"	exposure of 25 fibres/ml-year (alternative condition to medical criteria)	-
Belgium	Alternative conditions: - Presence of asbestosis or diffuse bilateral pleural thickening due to asbestos. - Presence, shown by optical microscopy, of at least 5,000 asbestos bodies per gram of dry pulmonary tissue or at least five asbestos bodies per linear metre of bronchoalveolar lavage. In case of serious doubt concerning the type of asbestos bodies observed, the presence of asbestos must be confirmed by electronic microscopy - Presence established by electronic microscopy of at least five million asbestos fibres of length exceeding 1 µm per gram of dry pulmonary tissue or at least two million amphibole fibres of length exceeding 5 µm per gram of dry pulmonary tissue - Other alternative condition: see "exposure criteria"	exposure of 25 fibres/ml-year or restrictive list of jobs or medical criteria equivalent to an exposure of at least 25 fibres/ml-year	10 years
Denmark	Diagnosis by microscope advisable; failing that, probable diagnosis on the basis of the clinical table and the development of the disease.	Helsinki criteria	-
Spain	Lung cancer associated with an asbestosis; failing that, biopsy, exam of bronchoalveolar fluid by microscope	10 years (except cancer associated with an asbestosis)	10 to 20 years
Finland	Diagnosis by a pathologist of a malignant neoplasm of bronchus or lung If asbestosis (even post mortem microscopic tissue response), automatic recognition	Helsinki criteria (in the absence of asbestosis)	10 years (in the absence of asbestosis)

(appendix 2 continue)

Country	Medical criteria	Criteria for asbestos dust exposure	Latency period
France[70]	Histological examination, failing that, diagnosis based on suggestive clinical evolution and imaging	exposure of 10 years + restrictive list of jobs	liability period: 40 years at most after the end of exposure
Italy	- X-ray, HRCT - Spirometry, blood test, electrocardiogram - Cytology	-[71]	-
Norway	Barring a formal diagnosis performed by microscope, a virtually certain diagnosis is sufficient (according to the clinical table and the development of the disease)	Helsinki criteria	15 years
Portugal	X-ray, CT, bronchoscopy, biopsy	indicative list of jobs	10 years
Sweden	Diagnosis normally based on biopsy or cytology and X-ray Lung cancer associated with asbestosis or "exposure criteria"	at least 15-20 years in a job with clear asbestos exposure or at around 10 fibres/ml-year cumulated dose (life-time exposure)	15 years
Switzerland	Diagnostic established on the basis of radiological, bronchoscopic and/or histological observations Recognition if cancer associated with an asbestosis or else modifications of the pleura caused by asbestos or "exposure criteria"	exposure of 25 fibres/ml - year (alternative condition to the medical criteria)	-

70 If the disease is associated with benign parenchymatous and pleural damage, the recognition conditions are more flexible: five-year period of exposure, indicative nature of the list of jobs and maximum latency period of 35 years.

71 There are no legal criteria concerning a minimum duration or intensity of exposure. The reality of the exposure is examined for each claim for recognition according to the scientific literature and the existence of possible non-occupational risks.

Appendix 3: recognition criteria for mesothelioma

Country	Medical criteria	Criteria for asbestos dust exposure	Latency period
Germany	Verified diagnosis (preferred histo-pathologically, also X-ray, CT)	even modest exposure	usually, 10 years minimum
Austria	Histo-pathologically verified	few weeks	-
Belgium	Histological examination, failing that, diagnosis based on suggestive clinical evolution and imaging	even modest exposure	-
Denmark	Pathological anatomical diagnosis	even modest exposure	-
Spain	Biopsy	even modest exposure	10 to 20 years minimum
Finland	Pathological anatomical diagnosis	few weeks	10 years minimum
France	Histological examination, failing that, diagnosis based on suggestive clinical evolution and imaging	routine exposure without minimum period (indicative list of jobs)	liability period: 40 years at most after the end of exposure
Italy	- X-ray, HRCT - Spirometry, blood test, electrocardiogram	even modest exposure	-
Norway	Pathological anatomical diagnosis	even modest exposure	20 years minimum
Portugal	X-ray, CT	indicative list of jobs	5 years
Sweden	Biopsy or cytology combined with a clinical diagnosis	even modest exposure	15 years minimum
Switzerland	Histology/cytology, or failing that, clinical table with X-ray + tomography	even modest exposure	-

Appendix 4: recognition criteria for pleural plaques

Country	Medical criteria	Criteria for asbestos dust exposure	Latency period
Germany	Diagnosis by X-ray, CT or histopathology	modest exposure	-
Belgium	CT	modest exposure	-
Denmark	X-ray must reveal a clear degeneration of the pleura	modest exposure	-
Finland	Bilateral fibrinous deposit on the pleura or fibrosis, diagnosed in imaging studies of the lungs (X-ray or CT)	few months	-
France	Plaques, calcified or not, of the pericardium or pleural when they are confirmed by a CT with or without modifications in the pulmonary function tests	routine exposure without minimum period (indicative list of jobs)	liability period: 40 years at most after the end of exposure
Italy	X-ray	modest exposure	-
Norway	Diagnosis proved by X-ray examination	modest exposure	20 years
Portugal	X-ray or CT	indicative list of jobs	10 years
Sweden	X-ray or CT	modest exposure	10 years
Switzerland	Diagnosis by X-ray of pleural plaques caused likely by asbestos	modest exposure	-

Appendix 5: NORWAY Cooperation between the Cancer register and the Insurance organisation

Men: Reported cases, information letters and replies from male patients 1999-2003

	Pathology	1999	2000	2001	2002	2003
Broncho-pulmonary cancer	reported	911	794	832	977	1,009
	dead	128	109	110	158	141
	letters sent	783	685	722	820	868
	replies	325 (41.5%)	304 (44.4%)	377 (52.2%)	402 (49%)	386 (44.4%)
	will make claim for recognition	181 (23.1%)	153 (22.3%)	182 (25.2%)	210 (25.6%)	212 (24.4%)
Mesothelioma	Reported	52	47	42	43	64
	dead	7	3	4	4	8
	letters sent	45	44	38	39	56
	replies	27 (60%)	30 (68.2%)	30 (78.9%)	31 (79.4%)	34 (60.7%)
	will make claim for recognition	25 (55.6%)	23 (52.3%)	27 (71.1%)	25 (64.1%)	30 (53.6%)
Cancer of nose/ sinus	Reported	12	15	11	17	14
	dead	0	0	0	2	0
	letters sent	12	15	11	15	14
	replies	5 (41.7%)	7 (46.7%)	5 (45.5%)	9 (60%)	3 (21%)
	will make claim for recognition	1 (8.3%)	5 (33.3%)	2 (18.2%)	8 (53%)	1 (7%)

Women: Reported cases, information letters and replies from female patients 1999-2003

Pathology		1999	2000	2001	2002	2003
Mesothelioma	Reported	6	6	6	5	10
	dead	1	1	0	0	1
	letters sent	5	5	6	5	9
	replies	4 (80%)	2 (40%)	3 (50%)	4 (80%)	7 (77.8%)
	will make claim for recognition	2 (40%)	1 (40%)	2 (33%)	0	6 (66.7%)
Cancer of nose/ sinus	Reported	12	3	7	5	4
	dead	0	0	1	0	0
	letters sent	12	3	6	5	4
	replies	4 (33.3%)	2 (66.7%)	5 (83.3%)	0	2 (50%)
	will make claim for recognition	1 (8.3%)	0	0	0	0

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The goal of the European Forum, founded in 1992, is to promote and safeguard the principle of a specific insurance against accidents at work and occupational diseases; moreover, it monitors actively the process of convergence between the systems in place.
The European Forum commits itself actively to improving the situation of workers in Europe who have had suffered from an accident at work or an occupational disease and therefore is playing a significant part in creating a Europe of the future that is socially just.
Today, members come from sixteen countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Norway, Poland, Portugal, Russia, Spain, Sweden and Switzerland.
The presidency of the European Forum rotates each year.

Eurogip is the link between the French Social Security system and Europe in the area of occupational risks: it analyses developments at the community level and in the other EU countries and puts forward the viewpoint of the Social Security system.
Since 1991, the men and women of this public interest grouping have informed the social partners and Social Security personnel, performed comparative surveys, taken part in projects of community interest and acted energetically to make the occupational risk prevention voice heard both in the standardisation bodies and by the notified bodies.
All these initiatives are to help the “accident at work and occupational diseases” Branch understand the issues at stake and take action.

www.europeanforum.org

Permanent Office in Brussels
C/O Maison européenne de la protection sociale
50, rue d’Arlon - B-1000 Brussels
Tel.: +32 2 282 05 60
Fax: +32 2 230 77 73

www.eurogip.fr

55, rue de la Fédération - F- 75015 Paris
Tel.:+33 1 40 56 30 40
Fax:+33 1 40 56 36 66