Occupational health regulations

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Regulations on occupational diseases and the current situation in Germany

by Xaver Baur, MD,[1] Karin Weber,[1] Monika Zaghow[1]

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Definition and current list of occupational diseases

In Germany, only diseases due to hazardous influences on groups occupationally exposed to a much greater extent than the general population can be included in the list of occupational diseases, which fall under § 551, section 1, of the National Insurance Code (Reichsversicherungsordnung, RVO) decreed by the Federal Government with the assent of the upper house of Parliament (table 1). In addition, § 551, section 2, of The National Insurance Code offers the possibility to recognize and compensate a disease not yet listed if it is consistent with new medical knowledge and the aforementioned conditions are fulfilled (1). Today, 64 compensable occupational diseases (or groups of diseases) are listed in the Occupational Diseases Ordinance (Berufskrankheitenverordnung, BeKV) (2).

Occupational diseases

Before an insured activity can be recognized as an occupational disease, it must have had a hazardous effect and have caused illness (table 1). The insured persons carry the burden of proof. They are, however, able to appeal to the welfare tribunal if the claim for compensation is refused. Some diseases require special insurance-related conditions in addition to the causal connection and the individual medical characteristics. Thus the following diseases must also have induced the cessation of all activities which were or could be the cause of aggravation or recurrence of the disease: tendon sheath affection (occupational disease no 2101), circulatory disturbance in the hands due to vibration (no 2104), diseases of the intravertebral discs of the lumbar portion of the spine (no 2108—2110), obstructive airway diseases (no 4301 and no 4302), and skin diseases (no 5101). Furthermore, skin affections require the attribute "severe disease or repetitive recurrence" (2).

Statutory injury insurance institutions in industry and trade (Berufsgenossensdaft) recognize and compensate only those occupational diseases which have been attributed to particular tasks by the legislative body. Social safeguards against other diseases are principally covered by the health insurance system, and those against the restriction or loss of work ability due to other reasons are a part of the legal pension scheme.

The Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Sozialordnung, BMA) keeps statistics on both the claims made to all insurance carriers and the compensations that then are paid. In addition to statutory injury insurance institutions in industry and trade, insurance carriers exist in the public and agricultural sectors. Occupational diseases of the latter primarily refer to infectious diseases (no 3101 and no 3102), diseases due to organic dusts (no 4202), obstructive airway diseases (no 4301), and skin diseases (no 5101) (3).

Available data on the other insurance carriers, namely, those in the public sector and the statutory agricultural insurance institution, are shown in figure 1 A (4, 5).

Claims for the compensation of suspected cases of occupational disease

In cases of substantiated suspicion, all physicians and dentists are obliged to report occupational diseases. Employers are subject to this obligation, too. Insured persons, health insurance companies, and other bodies can also report occupational diseases.

The increase in the number of reports in recent years can be traced directly to three phenomena (figure 1 A and B). Until 1985, statutory injury insurance institutions in industry and trade did not register claims that had been earlier identified as not fulfilling statutory requirements for occupational diseases. However, since 1986, each claim has been registered as "report of sus-

1 Professional Research Institute for Occupational Medicine, University of Bochum, Bochum, Germany.

Reprint requests to: Dr X Baur, Professional Associations' Research Institute for Occupational Medicine, University of Bochum, Bürkle-de-la-Camp-Platz 1, 44789 Bochum, Germany.

Table 1. Occupational disease statistics of statutory injury insurance institutions in industry and trade, including claims accepted or compensated for the first time in 1994.

Designation[a]	Claims	Accepted	Compensated for the first time
Diseases due to chemical agents (1)			
Metals or metalloids (11)			
Lead or its compounds (1101)	170	22	11
Mercury or its compounds (1102)	88	5	2
Chromium or its compounds (1103)	92	26	20
Cadmium or its compounds (1104)	30	4	4
Manganese or its compounds (1105)	7	1	—
Thallium or its compounds (1106)	—	—	—
Vanadium or its compounds (1107)	2	1	1
Arsenic or its compounds (1108)	24	18	6
Phosphorus or its compounds (1109)	13	4	1
Beryllium or its compounds (1110)	3	—	—
Cases (12)			
Carbon monoxide (1201)	114	34	2
Hydrosulfide (1202)	10	7	—
Solvents, pesticides and other chemical agents (13)			
Mucosa disorders, cancer and other neoplasms of the urinary tract due to aromatic amines (1301)	206	70	66
Halogenated hydrocarbon (1302)	870	86	27
Benzene or its homologues (1303)	393	63	59
Nitro or amine compounds of benzene or its homologues or derivatives (1304)	89	5	2
Carbon disulfide (1305)	27	8	5
Methyl alcohol (1306)	30	—	—
Organic phosphorus compounds (1307)	8	1	—
Fluorine or its compounds (1308)	49	38	2
Nitric acid (1309)	4	2	—
Halogenated alkyl, aryl or alkylaryl oxide (1310)	130	49	28
Halogenated alkyl, aryl or alkylaryl sulfide (1311)	—	—	—
Dental diseases due to acids (1312)	855	58	1
Cornea diseases due to benzochinon (1313)	2	—	—
Para-3-butylphenol (1314)	6	3	1
Isocyanates (1315)	131	54	37
Diseases due to physical agents (2)			
Mechanical impacts (21)			
Diseases of tendon sheats, peritendineum, muscular and tendinous insertions causing the cessation of all activities that were or might be responsible for the aggravation or recurrence of the disease (2101)	1718	26	7
Meniscus lesions following long-term or repetitive activities exerting stress on knee joints (2102)	2080	374	310
Diseases due to vibration while handling compressed air tools or equipment with the same effect (2103)	803	180	117
Blood circulation disorders of the hands due to mechanical vibration causing the cessation of all activities responsible for the occurrence, aggravation or recurrence of the disease (2104)	87	18	7
Chronic diseases of bursae due to constant pressure (2105)	721	146	1
Neural paralysis due to pressure (2106)	75	8	2
Fractures of the vertebral processes (2107)	15	2	0
Diseases of the intravertebral discs of the lumbar portion of the spine due to lifting or carrying heavy objects over a number of years or working in extreme positions over a number of years causing the cessation of all activities that were or might be responsible for the aggravation or recurrence of the disease (2108)	17425	153	113
Diseases of the intravertebral discs of the cervical portion of the spine due to carrying heavy objects on the shoulder for a number of years causing the cessation of all activities that were or might be responsible for the aggravation or recurrence of the disease (2109)	1636	5	5
Diseases of the intravertebral discs of the lumbar portion of the spine due to the effects of vertical vibration over a number of years causing the cessation of all activities that were or might be responsible for the aggravation or recurrence of the disease (2110)	1111	6	5
Dental abrasion due to silica dust (2111)	36	10	—
Compressed air (22)			
Diseases induced by activities in compressed air (2201)	15	17	2
Noise (23)			
Impaired hearing due to noise (2301)	12616	6792	1174
Radiation (24)			
Cataracts due to heat radiation (2401)	12	1	1
Diseases due to ionizing radiation (2402)	868	311	306

Continued on page 308

Table 1. Continued

Designation[a]	Claims	Accepted	Compensated for the first time
Infectious, parasitic and tropical diseases (3)			
Infectious diseases of employees engaged in health care, social services laboratories or in other activities bearing similar risks of infection (3101)	1087	321	77
Infectious diseases transmitted from animals (3102)	93	59	5
Infections by *ancylostoma duodenale* or *strongyloides stercoralis* in miners (3103)	2	—	—
Tropical diseases and epidemic typhoid fever (3104)	453	694	8
Diseases of airways, lungs, pleura and peritoneum (4)			
Diseases caused by inorganic dusts (41)			
Silicosis or coal worker's pneumoconiosis (4101)	3230	1904	546
Silicosis combined with pulmonary tuberculosis (4102)	110	55	44
Asbestosis or pleura disease due to asbestos dust (4103)	3684	1582	394
Lung cancer in combination with asbestosis or pleura disease due to asbestos dust (4104)	1308	552	539
Mesothelioma of pleura or peritoneum due to asbestos (4105)	657	486	480
Disease of lower airways and lungs due to aluminum or its compounds (4106)	22	5	3
Lung fibrosis due to hard metal dust (4107)	71	3	1
Disease of lower airways and lungs due to phosphate fertilizer (4108)	3	—	—
Malignant neoplasms of airways and lungs due to nickel or its compounds (4109)	31	7	7
Malignant neoplasms of airways and lungs due to coke oven gases (4110)	25	9	8
Diseases due to organic dusts (42)			
Extrinsic allergic alveolitis (hypersensitivity pneumonitis) (4201)	59	22	15
Diseases of lower airways and lungs due to the inhalation of cotton, hemp, flax dust (byssinosis) (4202)	6	1	1
Adenocarcinomas of the nose and sinuses due to oak wood dust or beech wood dust (4203)	44	38	38
Obstructive airway diseases (43)			
Obstructive airway diseases (including rhinopathia) induced by allergenic agents leading to the termination of all activities that are or could be responsible for the occurrence, aggravation or recurrence of the disease (4301)	4732	1152	311
Obstructive airway diseases induced by chemical or irritative agents leading to the termination of all activities that are or could be responsible for the occurrence, aggravation or recurrence of the disease (4302)	2180	243	160
Skin diseases (5)			
Severe or repetitive skin diseases induced by chemical or toxic substances leading to the termination of all activities that are or could be responsible for the occurrence, aggravation or recurrence of the disease (5101)	118749	2452	724
Skin cancer or skin alterations leading to cancer due to soot, tar, paraffin sludge, anthracence, pitch or similar substances (5102)	37	9	7
Diseases caused by other agents (6)			
Miner's nystagmus (6101)	2	—	—
§ 551 section 2 RVO (mainly due to carcinoma)		63	30
Diseases determined by legislation in the former German Democratic Republic	2244	1154	709

[a] Number designating the occupational disease in parentheses.

pected occupational diseases." This measure has resulted in a rapid increase of suspected cases in the statistics since 1986. In 1988, the list of occupational diseases was broadened to include additional occupational diseases (no 1314, no 4109, no 4110 and no 4203). Finally, since 1991, data from the German Democratic Republic (GDR) have been included in the statistics. The GDR applied a similar system for occupational diseases. Compensations according to former GDR law were granted temporarily. Since 1992, § 551 of the National Insurance Code has also been valid for the new federal states (*Bundesländer*). Although the former GDR law on occupational diseases is no longer valid, full-scale benefits are granted for diseases not included in the list if their onset dated before 1 January 1992.

In addition, there have been some more indirect influences on the increase in the number of reported cases of occupational diseases. For example, public relations work in the media has sensitized the population to health risks in workplaces. Besides, the introduction of occupational medicine to university studies has elevated the attention of the medical profession. The increase in systematic occupational medical examinations to more than four million in 1994 is also a causal factor.

The great increase in the number of cases in 1993 was mainly a result of the inclusion of discogenic diseases of the cervical and lumbar vertebral column due to the long-term lifting and carrying of heavy loads, activities in extreme postures or exposure to whole-body vibration requiring the cessation of activities (no 2108—

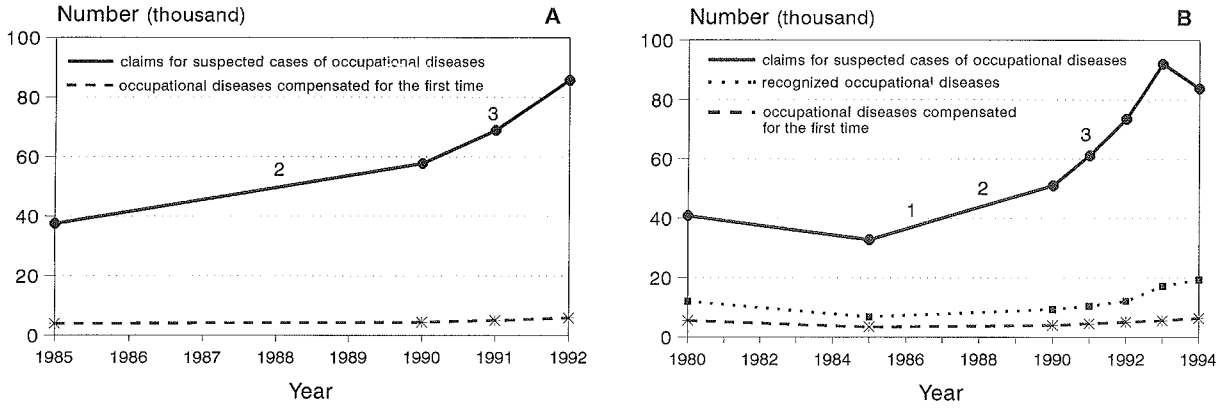

Figure 1. Statistics collected on occupational diseases by the Ministry of Labour and Social Affairs for occupational diseases in the Republic of Germany in 1985—1992 (A) and by statutory injury insurance institutions in industry and trade in 1980—1994. (1 = change in reporting of suspected occupational diseases to include cases earlier identified as not fulfilling the requirements for recognition as an occupational disease; 2 = list of occupational diseases broadened to include occupational diseases 1314, 4109, 4110, and 4203; 3 = inclusion of data from the German Democratic Republic)

2110). These new occupational diseases have to be recognized retrospectively on demand if the event occurred after 31 March 1988. Reports on, for instance, discogenic disease of the cervical and lumbar vertebral column due to the lifting or carrying of heavy loads or due to long-term activities in extreme positions (no 2108) decreased in 1994 by more than 5000 cases because the surplus of the previous year was reduced. The cases reported according to former GDR regulations dropped by about 50%. This development is due to the fact that diseases consistent with GDR law only had to be reported if they occurred before 1 January 1992.

With a maximum of 31%, compensation claims for diseases due to mechanic impact (25 722 cases) dominated, followed by skin diseases with 18 786 cases (22%) and impaired hearing due to noise with 12 616 cases (15%).

Claims for airway diseases due to inorganic dusts amounted to 9141 cases (11%), and there were 6912 cases (8%) of obstructive airway disease.

Recognized occupational diseases

Statutory injury insurance institutions in industry and trade recognized 19 419 new cases of occupational disease in 1994. The increase amounted to 1586 cases, or 9%, more than in 1993 (table 2).

Other cases with confirmation of a work-related cause

Among the recognized cases, another group of patients has to be considered. The suspected occupational cause of their disease has been confirmed, but the special insurance-related conditions required for some occupational diseases, for example, cessation of the hazardous activity, have not been met. In 1994 this group consisted of

Table 2. Most frequently recognized occupational diseases by statutory injury insurance institutions in industry and trade.

Position	List No[a]	Occupational Disease	Number of Cases[b, c, d]	Percentage
1	2301	Impaired of hearing due to noise	6792	35
2	5101	Skin diseases	2452	13
3	4101	Silicosis/coal worker's pneumoconiosis	1904	10
4	4103	Asbestosis	1582	8
5	4301	Allergic airway obstruction/allergic occupational asthma and/or rhinitis	1152	6
6	3104	Tropical infections	694	3.5
7	4104	Lung cancer due to asbestos	552	3
8	4105	Mesothelioma (asbestos-induced)	486	2.5
9	2102	Tendon sheaths	374	2
10	3101	Infectious diseases	321	1.5

[a] See table 1 for a key to the numbers.
[b] Figures include the total number of recognitions to be subdivided into the following two groups: (i) recognition with compensation on condition of > 20% impairment in job performance (Minderung der Erwerbsfähigkeit), (ii) recognition of diseases of patients with < 20% impairment in job performance (these patients are not entitled to a pension but can claim for cures, rehabilitation measures and the like).
[c] The number of recognized occupational diseases compensated for the first time by a pension or a benefit for dependents amounted to 6432 cases in 1994. Compared with the previous year, there was an increase of 764 cases (13%) (figure 1 B). Diseases due to exposure to chemical (32%; 67 cases) and physical (20%, 338 cases) agents and also diseases of the airways, lungs, pleura and peritoneum (18%, 390 cases) showed the greatest increase. Altogether 709 cases were compensated because they had been recognized under former GDR law.
[d] Altogether 12 987 cases occurred in 1994. In comparison with the previous year, the increase was 822 cases or 7%.

8095 patients. Most of them suffered from skin diseases with a particular degree of severity demanding the cessation of exposure because of the possibility of relapse. In such cases, statutory injury insurance institutions in industry and trade take partial measures under the jurisdiction of § 3 of the Occupational Disease Ordinance to prevent the occurrence of an occupational disease.

Mortality due to occupational diseases

Mortality as a consequence of an occupational disease is assumed if the occupational disease was the only or at least the legally substantial cause of death. Especially among elderly persons, other affections are frequently jointly responsible. This aspect has to be considered with regard to mortality. Moreover, occupational diseases such as silicosis (no 4101), silicotuberculosis (no 4102), asbestosis (no 4103), and asbestosis with lung cancer (no 4104) are legally regarded as having a causal relation to death for patients with impaired job performance of at least 50% during their lifetime. Evidence of this fact has to be provided by the health insurance carrier.

This group also includes persons who were not granted a lifetime or a postmortem pension. In addition to acute poisoning leading to death (eg, due to carbon monoxide) occupational diseases of patients who undergo rehabilitative treatment between the event and death and were thus not entitled to a pension according to § 580 of the National Insurance Code (eg, silicotuberculosis) are included.

In 1994 the mortality rate rose by 10%. Two-thirds of these cases were induced by inorganic dusts. Mortalities due to ionizing radiation mainly resulting in lung cancer due to activities in uranium mining in the former GDR also increased distinctly.

Expenses related to occupational diseases

Approximately one-third of all reports of suspected occupational disease leads to benefits being paid by statutory injury insurance institutions in industry and trade. Benefits are based on the confirmation of a suspected occupational disease. However, benefits are also due if the disease has not yet occurred but the risk exists. In such cases the decree on occupational diseases, especially § 3, forms the legal basis for preventive actions such as hygienic measures at work or even a change of occupation and retraining.

The spectrum of benefits provided by statutory injury insurance institutions in industry and trade is comprised of medical rehabilitation, occupational rehabilitation, cash payments to injured persons, and temporary payments and benefits according to § 3 of the Occupational Disease Ordinance.

The total payment for compensation in 1994 amounted to DEM 13.4 billion. More than DEM 8.9 billion had to be spent on pensions and benefits to diseased persons, while the costs of cures added up to DEM 4 billion, corresponding to 66% or 30%, respectively. DEM 523 million was paid for occupational reintegration.

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