

SUMER: mapping work hazard exposure in France

The initial findings of a large-scale survey on French workers' exposure to the main hazards of work were recently unveiled. This article takes a brief look at work-related risks in France.

The Géoportail website which offers Net surfers a virtual flight over France through 400 000 aerial photographs, made international headlines when it opened last June. In a way, it was pipped to the post by the French Employment Ministry's somewhat similar exercise of "mapping" not landscapes, but rather the exposure of French workers to the risks of doing their job.

SUMER – the French acronym for health surveillance of work hazards – is the name given to a large-scale survey held between May 2002 and September 2003 in all regions of France. Building on previous initiatives in 1987 and 1994, the health and safety inspectorate together with an Employment Ministry agency – the department for the development of research, studies and statistics (DARES) – set out to paint a more detailed picture of occupational exposure to causes of harm and potentially health-damaging work situations. More space was given over to the section on organisational and relational constraints, for example, to take account of the sharp rise in demand on this issue.

The way it worked was that 1 800 occupational doctors quizzed some 50 000 French employees about their working conditions; half these workers also filled out a detailed self-administered questionnaire to evaluate their situation in respect to the two key aspects of workload and autonomy. The idea of this questionnaire was to get a clearer picture of how workers themselves perceive their job and how their health is affected by their work. The survey sample of employees was representative of the whole

working population, including a range of age groups, social status categories (manual workers, non-manual workers, managerial staff), branches of industry (service sector, construction, manufacturing industry, agriculture), and company sizes (from under 10 to over 500 employees).

The coverage was extended over the 1994 survey to include public hospitals, the power industry (EDF-GDF), the Post Office, the national railways (SNCF) and the national carrier, Air France, but not central and local government employees (public research and education, police, armed forces, etc.). The 2003 Sumer survey is representative of 17.5 million employees, or 80% of the French workforce.

Development of work organisation-related risks

The first detailed analyses of the survey data were published in December 2004. From these, it can be said for certain that workers' exposure to most of the risks and physical discomforts of work has risen between 1994 and 2003.

The survey's authors single out the growth of organisational constraints and their impact on workers' health and well-being (see table). Workweeks may have got shorter (20% of employees work 40-plus hour weeks against 29% in 1994), but the feeling of working under pressure has increased. So, in 2003, 55% of employees report having to respond rapidly to external demands (6% more than in 1994) while the share of employees subjected to computer-based controls has almost doubled in ten years. Dependence on workmates has also increased. In 2003, 28% of employees report that their work pace depends on that of a colleague, up two points on 1994. The feeling of working under time pressure is also spreading. In 2003, three in five workers report frequently having to cope with emergency situations that force them to drop one task for another unplanned one – 12% more than in the preceding survey.

SUMER 2003 also reveals that a growing number of employees are working in direct face-to-face or telephone contact with the public. Many respondents feel that this creates a new risk: 23% feel physically threatened by their contact with the public or customers, a percentage that rises to 40% among shop and service workers.

Exposures to organisational constraints

Work pace imposed by:	1994 (%)	2003* (%)
An external demand requiring an immediate response	49.8	55.4
Immediate dependence on colleagues	26.3	28
Permanent checks or monitoring by superiors	28.4	25.5
Computer-based control or monitoring	14.5	27
Having to interrupt a task frequently in order to take on an unforeseen task	46.2	58.4
Working in direct contact with the public	63.2	70.9
Among workers in contact with the public: exposed to the risk of physical attack	18.5	23.2

* Identical coverage: SUMER 2003 survey findings on the same coverage as SUMER 1994.

Source: Premières Synthèses Informations, *L'exposition aux risques et aux pénibilités du travail de 1994 à 2003. Premiers résultats de l'enquête SUMER 2003*, DARES, December 2004, No. 52.1

If "new risks" related to changes in work organisation are emerging, exposure to traditional physical

risks is not going down, despite the steady decline in industrial and agricultural employment.

Chemicals are a telling case in point. The share of employees exposed to chemicals has risen by 3% between 1994 and 2003, especially in construction (+11), industry and agriculture (+7). The survey also shows that the number of workers exposed to at least three chemicals has gone up, as has exposure time. Chemicals exposure is increasingly unequally distributed between social status categories. Unsurprisingly, it is manual workers – both skilled and unskilled – that are most affected by the increase.

After this general situation review, DARES has regularly published since June 2005 data on four big issues on the French authorities' agenda: noise, carcinogens, postural and joint constraints, and manual handling of loads.

7% of workers are subjected to health-damaging noise at work

Up to 7% of employees are subjected for over twenty hours a week to noises louder than 85 decibels A (dBA), or impact and pulse noise. These noises are classed as "health-damaging" because they can wreck hearing. 25% of employees are subjected to "other noises" that are less health-damaging. Manufacturing employees are worst-affected (18%), followed by agricultural and building workers (12%). Most health-damaging noise in industry is found in the wood-paper, metallurgical and metal working, minerals, car-making and machine-building, textile and food processing industries. By contrast, service industry workers are seldom subjected to health-damaging noise (2.7%).

13% of workers are exposed to carcinogens

2 370 000 people – 13.5% of all workers, mostly male manual workers – are exposed to carcinogens in their workplace.

The ten-year trend in exposure to carcinogens shows a slight rise (about 1% on a constant list of products). The number of highly or very highly exposed workers is also up (from 14% to 17% of all exposed workers), and while collective forms of protection are more widespread, nearly 40% of exposed workers are still not covered by them.

A high proportion of contingent workers is exposed to carcinogens – nearly 15% of temporary agency workers and close to 19% of apprentices and young workers on sandwich training contracts are affected. Over-exposure is also found among workers under 25 years of age (17% compared to under 13% among the over-40s). Exposure to carcinogens is behind significant social inequalities of health: only just over 3% of managerial staff, but more than 30% of skilled and 22% of unskilled workers, face this hazard.

The Sumer survey identified eight carcinogens to which a high proportion of workers is exposed: untreated mineral oils, three solvents (benzene, tetrachloroethylene and trichloroethylene), asbestos, wood dust, diesel exhaust fumes and crystalline silica (mainly quartz, tridimite and cristobalite).

These eight products account for 2.4 million exposures – two-thirds of carcinogen exposures. Crystalline silica is a particularly worrying case (see article, p. 4). More than 200 000 workers are exposed to this carcinogen, approximately half of them in the building industry. The conditions of crystalline silica exposure set alarm bells ringing: 24% are exposed for more than 20 hours a week, dust extraction systems are found in only 14% of cases, and only 39% of exposed workers have personal respiratory protection.

366 000 workers deal with mutagens or reprotoxins

Something like 186 000 French employees are exposed to mutagens (which induce genetic changes) and 180 000 to reprotoxins. The most frequently encountered mutagens are chromium and its derivatives (58% of cases) and benzene (25%). Production and maintenance workers are most exposed (2.7%), followed by research, study, methods and computing staff. The metallurgical and metal working industry is the heaviest user.

Where reprotoxins are concerned, about half the 180 000 workers concerned (1% of all French employees) work in industry, 18% in services to business, and 15% in the building industry. Men are three times more often exposed than women, and account for 80% of exposed workers. The reprotoxin to which French employees are most frequently exposed is lead (66% of cases).

Around 60% of exposures are point exposures – less than two hours a week –, but 13% top twenty hours a week. The risk "seems properly handled" in 57% of cases but "in one in three cases", employees are totally unprotected. The overwhelming majority of those affected are manual workers (63%) and technician and skilled craft occupations (30%).

Postural and joint constraints: one in two workers affected

Up to half of all French workers are subjected to at least one postural or joint constraint, according to SUMER 2003. This means 8.4 million people (48%) affected while doing their job by at least one postural or joint constraint that can be considered "painful". Young workers, apprentices and temporary agency staff are most affected. Over two thirds of manual workers are subjected to a painful constraint, compared to just over one in five managerial staff.

Postural and joint constraints add to the physical discomfort of work and lead to wear and tear, premature ageing and a range of illnesses. They contribute to the development of musculoskeletal disorders (MSD), the main occupational disease in Europe today, which forces many sufferers into early ill-health retirement.

Handling of heavy loads: mechanisation no magic solution

Four in ten workers handle heavy loads in their job, and three out of ten do so for at least two hours a week. Building workers are most concerned: half of them handle heavy loads for at least two hours a week and 20% for at least 20 hours. Factory

workers (45%) and farm labourers (43%) are also highly exposed, while in the service industry, shop and health care workers are most affected.

More men (35%) than women (22%) have to handle heavy loads. Temporary agency workers do so for a large share of their working time: 31% of agency-supplied building workers handle heavy loads for at least 20 hours a week. The survey also finds that handling heavy loads is often combined with exposure to other hazards like noise and organisational constraints (tight deadlines, immediate dependence on colleagues, etc.).

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More details:

www.travail.gouv.fr/etudes-recherche-statistiques/statistiques/sante-au-travail/87.html

SURVEY

Non-standard hazards on the rise

The Sumer survey is a vast body of data on a wide array of risks. We asked the survey's "statistics" coordinators, Nicole Guignon, Marie-Christine Floury and Dominique Waltisperger, to explain what it means in layman's terms.

The early findings from SUMER 2003 suggest that exposure to "traditional" physical risks like noise and chemicals is rising, whereas the industrial jobs that generally incur this kind of risk are declining. This doesn't add up, does it?

The SUMER initial findings square perfectly with those of the *Working Conditions* surveys¹. They show that the physical discomfort of work is not lessening. There may be several reasons why, one of which is the physical discomfort of work in non-industrial activities, especially personal services, logistics, shopwork, the hospitality industry, etc.

But it is also because workers are now readier to report physical discomfort at work. Analyses of the 1984 and 1991 *Working Conditions* surveys, for example, showed that nurses who previously said they did not carry heavy loads started reporting that they do. The undervaluing of nursing has changed how nurses perceive their job. To oversimplify, you could say that "carrying people" has become "carrying heavy loads".

The intensification and undervaluing of work can also provoke attitudinal changes. Changes in risk perception are also being seen among occupational doctors, as SUMER reveals. Risks which they previously tended to see as natural or too unimportant to mention are now being reported. This is a new awareness we are seeing among occupational doctors, especially in relation to biological, and to a lesser extent, short-term chemical, hazards.

So risks that used to be played down are not being brushed aside any more...

At-risk workers tended to be in denial about situations that were harmful but thought to be natural or "part of the job". Lorry drivers are a case in point: a large share of them used to report that they were not at risk of road traffic accidents. Because that proportion is decreasing, the risk is becoming more visible.

Is one reason for the increased exposure to chemical hazards simply that workers and occupational doctors are more aware of the risk?

It's hard to say, because the SUMER 2003 questionnaire is not the same as the SUMER 1994 one. Things like exhaust fumes and fuels, which are extremely widespread, were not included in the 1994 questionnaire. The likelihood is that the increase in total exposures comes from the inclusion of exposures to substances that did not appear in the previous questionnaire. An industrial hygienists' counter-survey to SUMER 1994 on chemical exposure reporting showed that hygienists tended to find more products than occupational doctors. So the increased exposure to chemicals that SUMER 2003 found – not huge, by the way – does not necessarily reflect an increase in the number of products that workers are exposed to. Also, short-term exposures are better accounted for nowadays.

¹ The *Working Conditions* survey has been carried out every seven years in France since 1978. It is a self-reporting survey by workers on organisation of working time, work paces, autonomy and co-operation, oversight and selected questions on the work environment i.e., physical effort and work-related risks. Since 1991, the survey has also measured the effects of mental workload and computer use. A questionnaire on accidents at work has been included since 1998.