

ALERT AND SENTINEL APPROACHES TO DETECT WORK-RELATED DISEASES

SUVA: Reporting system of the Swiss National Accident Insurance Fund

This discussion paper is part of a series aiming at describing alert and sentinel approaches for the early detection of work-related diseases (WRDs) in order to provide more insight into the way these systems function and into the drivers of and obstacles to the implementation of such systems. This article describes the system of the Schweizerische Unfallversicherungsanstalt - SUVA (Switzerland) and is based on EU-OSHA's project 'Alert and sentinel approaches for the identification of work-related diseases in the EU' (EU-OSHA, 2018) consisting of a literature review and an in-depth qualitative study and commissioned to a research team made of experts from the Catholic University of Leuven, the Coronel Institute, the Finnish Institute of Occupational Health, the University of Manchester and the University of Bologna.

Introduction to the approach

This reporting system of the schweizerische Unfallversicherungsanstalt (SUVA), or the Swiss National Accident Insurance Fund, is a compensation-based system with a long history that begins with the formation SUVA.

Summary of main characteristics

- Initially directed towards occupational accidents; occupational diseases (ODs) were gradually introduced.
- Created to provide insurance for workers, but over time expanded to include preventive workplace activities and publication of national OSH statistical data.
- Reporting based on voluntary participation of all types of physicians.
- Data from mainly two sources: compensation claims and medical examinations (screening) of workers.
- Work-relatedness evaluation performed by SUVA's OH experts.
- Possible to include detailed workplace inspections with exposure assessments.
- Even though the criteria for recognising an OD and its compensation are strict, preventive actions triggered by a reported case are still implemented regardless of fulfilment of these criteria.
- Strong point: direct link between the collected data and prevention aimed at individual workers at their workplace, or at specific groups of workers at high risk.

Initiating organisation

SUVA is an important part of Switzerland's social security system. As an independent company under public law, SUVA insures people at work and during leisure time. It provides compulsory insurance cover for employees and the unemployed against accidents and ODs. The SUVA model combines prevention, insurance and rehabilitation.

History of the approach

The history of SUVA goes back to changing conditions and accident risks at the workplace at the beginning of industrialisation. The first stepping stone towards compulsory accident insurance was laid by the Swiss voters in 1877 with the adoption of the Federal Factory Act. This limited working hours and protected women and children in particular. In 1890, the mandate for implementing health and accident insurance was added to the Swiss Constitution. Accident and health insurance was added to

legislation in 1912 and in the same year the Swiss Confederation commissioned the founding of SUVA. SUVA commenced operations several years later, in 1918. Its mission mainly included providing compulsory accident insurance and supervising occupational safety in companies. Over time, services have been extended to include prevention, insurance and rehabilitation. In addition, SUVA has managed accident insurance for the unemployed on behalf of the Confederation since 1996, and has managed military insurance since 2005.

Although SUVA focused on occupational accidents from the very beginning, ODs were added to its priorities only somewhat later. This was marked by the formation of the first team in charge of ODs, which included asbestos-related health effects. In the following year, the scope of ODs began to widen. Other ODs were included in SUVA's programmes, in line with the discoveries of new health risks among the working population.

Another milestone in the history of SUVA was the new Federal Accident Insurance Act, which was implemented in 1984. According to this Act, all employees had to be covered against accidents. As well as SUVA, other insurance carriers were allowed to offer compulsory accident insurance. However, these other insurance carriers were mainly involved in the financial and service sectors, whereas SUVA mostly targeted economic sectors known to be at high risk. At the same time, SUVA's Occupational Safety Department was reorganised, and SUVA also became responsible for the prevention of ODs in all sectors and for statistical analyses of all data that come from insurance companies. Since then, OSH statistics and annual reports derived from these data have been published by SUVA.

Programme's aim and objectives

Even though SUVA was initially directed towards occupational accidents, ODs were gradually introduced as one of the priorities of the system. Compensation claims can be submitted on condition that the OD is on the official list of ODs recognised by SUVA, or has a work-related causality of at least 75 %. The SUVA reporting system was created mainly to provide insurance for workers, but over time its objectives have expanded to include preventive workplace activities and the publication of national OSH statistical data.

Description of the programme's workflow and reporting

Reporting parties

In the Swiss system, it is not the physician but the employer and the employee together who are legally responsible for reporting, but any physician can report a case that might be work-related to SUVA. Physician reporting is not required by law and is therefore based on voluntary participation. The physician involved should recommend the formal reporting of an OD to his patient. After formal reporting by the company, the physician performing the treatment must write a medical report. In addition, any physician can also report a case to the accident insurance fund with the consent of the patient, for example when a patient no longer works as an employee. In practice, these reports are usually submitted by general practitioners (GPs), family physicians, OH physicians or other medical specialists. Occasionally, information sessions, congresses and training are organised for different groups of physicians to inform them of the possibility of and procedure about reporting to SUVA. Physicians can also be informed of the reporting system through the SUVA website and through numerous publications derived from the data collected.

Work-relatedness evaluation

All reported cases are evaluated by OH physicians from SUVA. Cases reported to other insurance agencies are judged within the agencies themselves and, after a work-relatedness evaluation, are sent to SUVA for statistical evaluation. These agencies also sometimes consult SUVA experts about their decision.

Accident insurance legislation and its ordinance contain a list of harmful substances and ODs (Liste der schädigenden Stoffe und der arbeitsbedingten Erkrankungen). However, reporting is not restricted to this list. Health conditions that are not on the list may also be reported if they are backed by enough evidence that the disease is work related. More precisely, 75 % of aetiology must be work related. In

practice, this hinders the reporting of multifactorial disorders such as stress-related ill health and musculoskeletal disorders, as it is very difficult to prove their causal relationship to work with any high level of certainty. Nevertheless, the greatest impact of proof of causality is on the insurance aspect of the reported case and it does not inhibit any kind of preventive activities aimed at the detected health risks, even if the evaluation procedure does not class them as ODs.

Reporting mechanism

Data gathered by SUVA come mainly from two sources.

Compensation claims

All workers insured by SUVA can make compensation claims for occupational injuries and diseases. Compensation claims can be submitted on condition that the disease is on the official list of ODs recognised by SUVA, or has at least 75 % work-related causality. Reporting was initially done by the human resource departments of companies using paper forms but is now mostly electronic. Electronic reporting forms have a standardised format and contain a set of items to be filled in by the reporting physician. Guidelines for reporting are provided. In the case of a compensation claim, OH physicians from SUVA often perform workplace inspections to gather additional data and perform a thorough investigation of the exposures and health risks.

Medical screening of workers

Medical examinations of workers are performed by external physicians (mainly specialists in occupational medicine or general medicine). The aim of these examinations is to identify health risks and the timely prevention of WRDs. The Swiss OSH laws define the presence of an increased risk of WRDs in certain groups, depending on which the frequency of medical surveillance to be performed differs among insured companies. Therefore, medical examinations mostly target the specific groups of workers and economic sectors that are known to be at high risk of specific exposures, such people working with quartz or asbestos and workers in chemical plants (e.g. making solvents). These are compulsory medical examinations carried out by SUVA (and paid for by SUVA). In addition, industries can request medical examinations at any time. SUVA decides if these are performed and covered by SUVA.

The enterprises can also take full responsibility for some medical examinations. This medical surveillance can be initiated by a company regardless of the legal reason for it. The examinations can include biomonitoring activities, exposure assessments, medical screening, etc., and these data are not transferred to SUVA.

Communication

SUVA encourages communication between the reporting physician and SUVA's OH experts. Reporting physicians can contact SUVA's OH experts at any time if they have doubts about an identified case. During workplace inspections, SUVA's experts investigate cases in more in detail, and evaluate their work-relatedness regardless of the opinion of the reporting physicians.

Data storage

All the data collected through case reports are stored in a database. This includes biomonitoring data on lead, mercury, solvent monitoring, etc. This database can be used for data mining, for instance to identify groups of workers at high risk or new/emerging work-related health risks. However, they are not available to the public except in the case of a research proposal submitted by an external party.

Dissemination

SUVA produces annual reports that summarise the statistics from all accident insurance providers derived from all data collected in the previous period. These reports are published on the SUVA website and are available to the public.

The information gathered by the SUVA reporting system is also disseminated through scientific publications (for example, Rusca et al., 2008; Koller, et al., 2016) and case reports. In addition, physicians can learn about the insights derived from the reported data through information sessions, congresses and training organised by SUVA personnel.

Financial aspects

All the activities performed by the SUVA professionals are funded from the insurance money. All financial costs are provided from two main sources: insurance for ODs and accidents, and the fund intended for preventive actions. This kind of division is important from the stakeholders' perspective, especially in terms of the prevention budget, as it covers the financial expenses of the medical examinations of workers, which are linked not to compensation but only to prevention. On the other hand, the evaluation of work-relatedness expenses is covered by the insurance fund.

Usage of data

Examples of data usage for informing policy and prevention

SUVA provides a direct link to prevention aimed at individual workers at their workplaces or specific groups of workers at high risk. Both through both medical surveillance and through the identification of ODs or WRDs by the SUVA reporting system, workplace preventive actions can be triggered, for instance, through workplace inspections to identify the main causes of reported work-related conditions. Assessment of workplace exposure will initiate advice on possible preventive measures against the identified risk.

One example of a link with prevention is a campaign targeting skin problems among hairdressers. This campaign was started after hairdressers were identified as having more skin problems than other professions. SUVA's OH experts informed employers in the hairdressing sector of this issue. In addition, workplace recommendations were provided to address these problems, and workplace checks were conducted to evaluate these actions. More information is available at: <https://www.suva.ch/de-ch/praevention/sachthemen/hautschutz>

A similar set of actions was taken in the case of skin cancer caused by ultraviolet radiation among outdoor workers. After this was identified as an emerging risk, statistical data gathered by SUVA were used to justify and implement both individual prevention and technical interventions at workplaces. More information available at: <https://www.suva.ch/de-ch/praevention/sachthemen/sonne-hitze-uv-und-ozon>

Examples of data usage for detecting new/emerging WRDs

There are different ways to give alerts on and report new and emerging WRDs. One way is to report a case directly through the official reporting system. However, the case must have 75 % work-related causality if the condition being reported is not on the list of recognised ODs. It can be very difficult to provide enough evidence to support such high-level causality, especially with regard to certain groups of diseases. Thus, for some WRDs it can be easy to establish a high level of work-related causality, as in the case of allergies, whereas for others, such as mental health problems, it is almost impossible.

Another way to give alerts on new and emerging WRDs is through professional communication between reporting physicians and SUVA's OH experts, as well as among experts. SUVA's department of occupational medicine has specialists in OH as well in pulmonology, dermatology etc. Communication between them takes place on a regular basis. This sometimes includes discussions about potential new/emerging occupational health risks. In cases of an alert of a possible new/emerging risk or WRD, SUVA's OH physicians and researchers often look for other sources of complementary data. For instance, they contact the other groups within SUVA working on the occupational exposure limits for additional investigation. They also often search for similar cases in other countries, such as Germany, the Netherlands, France and Italy. In this way, several years ago, the link between skin cancers and ultraviolet radiation was identified as a possible new WRD risk. This can even lead to changes in the official list of ODs, on condition that the supporting evidence and rationale are sufficient for this kind of change. For instance, in the 1990s, latex allergy problems emerged, and this allergy was not on the official list of reportable conditions. However, after the OH physician who identified several cases

contacted the SUVA reporting system, and a clear link was established with work-related exposure, SUVA recommended that the Swiss government add latex to the list of harmful substances. Similarly, **allergy caused by acrylates** was not on the official list until recently, but, if the reporting party had clear proof of work-relatedness, the case could be accepted and recognised.

Stress-related health problems at work and musculoskeletal diseases are important emerging risks reported by companies. However, these health problems are seldom reportable to SUVA because they are not on the list of disorders caused by harmful substances and are basically impossible to acknowledge as work related with 75 % work causality because of their multifactorial origin. Therefore, preventive activities for these health problems occur outside the SUVA reporting system. Nevertheless, SUVA's preventive services work with both industries and OH physicians on, for example, the **prevention of burnout**. Some companies require annual medical screening for burnout for all their workers. OH physicians provide feedback to these companies on the risks identified and advice is given on preventive measures to address them. OH physicians often talk to the employer and try to introduce possible changes in the organisation of the work environment and workload, which could have a favourable effect on the worker. Furthermore, physicians often analyse the risk of burnout in different departments of the company, pointing out specific groups of workers that are at higher risk and organisational aspects within departments that can be improved.

The approach to **work-related musculoskeletal problems** has recently changed. Previously, work-related musculoskeletal health problems were reported and evaluated not by OH specialists, but by medical specialists (orthopaedists and surgeons). The process of work-relatedness evaluation did not include workplace inspections, and the system relied on the experts' opinions, but this has been changed. Musculoskeletal problems are now becoming increasingly recognised as WRDs. The reason for this change is mainly that SUVA's physicians have more expertise in this domain to recognise and deal with these problems. In addition, they conduct workplace inspections, which provide more information from the workplace, and are in communication with ergonomists.

Other examples of data usage

As previously mentioned, SUVA is in charge of providing national OSH statistics. Therefore, the data gathered are used to follow **trends in OSH**. For instance, the analysis of data on work-related skin diseases showed a decrease in skin problems related to cement exposure, which was one of the leading problems in the 1990s. These data also led to the identification of emerging risks with regard to work-related skin diseases, such as cooling fluids in the metal industry (Koller, et al., 2016), epoxy resins and substances used by hairdressers, which are currently marked as the leading exposures.

SUVA also participated in studies on international trends through Modernet and STANDERM network (Stocks, et al., 2012; Stocks, et al., 2015; Mahler et al., 2017).

Stakeholders' views

This article is partly based on qualitative, in-depth face-to-face or telephone interviews with three stakeholders of the system. The interviews reflect the views of different actors in the system (e.g. owner of the system, workplace actor reporting it, and researcher or other stakeholder using the resulting data from the system) on the drivers and obstacles, the quality of data and the transferability to other countries of the system or approach.

Drivers and obstacles

Drivers

Excellent organisation of and communication with professionals working in SUVA

Obstacles

Reporting diseases that are not on the official list of ODs is challenging. The reason for this is mainly the mismatch between the part of the insurance system that provides

Drivers

Stakeholder 1 (owner): *'I think that, for the main risks and work-related diseases that are covered by SUVA, we have really good data. And it's easier for us because we're in the same company and we can speak with the people from the statistics department. We also have regular meetings, for optimisation. For the other insurance companies, I think it's a little bit more complicated. If they had more occupational health specialists, then it'd be easier for them, because I think there's a lack of knowledge within the insurance companies.'*

Obstacles

compensation for ODs and the one that handles WRDs that are not on the official list.

Stakeholder 1 (owner): *'So it's hard to distinguish whether a disease is occupational or not. And for the doctors, sometimes it's a bit complicated, because, when the insurance company hasn't decided yet and the decision isn't clear, then first they have to deal with the costs of the insurance for the diseases that are not occupational. And if, later, the decision is made that it is an occupational disease, you have to change everything.'*

The more **complicated procedure of reporting diseases that are not officially recognised** as occupational sometimes leads to under-reporting of these health complaints.

Stakeholder 1 (owner): *'SUVA deals with a large number of occupational diseases. The other insurance companies sometimes they don't have so many and they don't know how to deal with them very well. And sometimes they say, "oh no, it's not on the list". It's not an occupational disease and they don't know that you can actually prove that it is an occupational disease.'*

The quality of reporting and medical examinations performed by non-occupational professionals. This was also linked with the poor network of OH physicians in the country.

Stakeholder 2 (reporting party): *'SUVA also delegates medical examinations to non-occupational health physicians.'*

This means that every GP can carry out the SUVA tests. Which has two consequences. First of all, from the quality perspective, the examinations are perhaps not perfect. And the second is that we have little opportunity to build our occupational health physicians' network in Switzerland because we don't have enough work-related examinations. If more of these examinations were performed by OH physicians or if the companies were obliged to have OH physicians, more occupational conditions would be reported.'

Data quality

One of the main features of data collection procedures contributing to high data quality, in the view of all the interviewees, is the standardisation of all the steps in the reporting procedure. In addition to the

standardised reporting form, the reporting process itself is extremely structured. This is ensured by well-organised communication between companies, physicians and SUVA, and a clear division of tasks. Nevertheless, data reported by OH physicians and GPs often differ in quality. Reports by (SUVA) OH physicians are mostly detailed, especially in terms of the work-relatedness of the possible exposures and risks of the disease present at the workplace. As stated by the owner of the system, the quality of the exposure assessment depends to a great extent on whether the case report was made with or without a workplace investigation conducted by an OH physician or industrial hygienist.

Stakeholder 1 (owner): 'When it comes to exposure assessment, I think the quality isn't always so good. A big part of it is based on self-reporting, because there aren't so many resources to make individual assessments of each case. And it also depends on the medical specialists who work in the companies. In cases where the exposure data are not clear, we go into the companies with our colleagues who are OH physicians or occupational hygienists and we do the exposure assessment, for instance how much lead is present in the air. And this can't be done in all cases. But it's not always necessary, because there are cases that are very clear, or if you have some allergy or some reaction from a lotion, then it's not so complicated and you don't do the assessment. Sometimes we only know about the problem after it's been solved because they've made a change to the lotion or the substances.'

Transferability to other countries

When discussing the possibility of transferring a surveillance system such as the one maintained by SUVA, the interviewees pointed out that similar systems already exist in some countries such as Austria and Germany. These systems are also compensation based and have a similar structure in terms of the reporting and recognition of ODs, WRDS and accidents. However, not all conditions have an equal status in terms of recognition. These particularities are closely related to the OSH systems in place in each country. Other compensation-based systems in other countries are quite different from that of SUVA, for instance the systems in France and Italy. Nevertheless, some strong points of the SUVA reporting system, such as the data quality, the expertise in assessing work-relatedness, and the direct link with workplace preventive actions and campaigns are something that compensation-based systems from other countries could learn from.

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- **Links for further reading**

A [literature review report](#), the [final report](#) and [summary report](#) of the EU-OSHA's project 'Alert and sentinel approaches for the identification of work-related diseases in the EU', as well as two summaries of two seminars ([18 May 2017 in Brussels \(BE\)](#); and [31 January 2018 in Leuven \(BE\)](#)) and the presentations given at the seminars are available from : <https://osha.europa.eu/en/themes/work-related-diseases/alert-and-sentinel-systems-osh>