

## EPIDEMIOLOGICAL MONITORING OF WORK-RELATED HEALTH PROBLEMS: COHORTS COSET- MSA AND COSET-INDEPENDENTS – FRANCE

**Type of initiative:** Health surveillance programme / Research

**Time frame:** 2016-2020

### 1 Description of the initiative

#### 1.1 Introduction

COSET (Cohortes pour la surveillance épidémiologique en lien avec le travail), cohorts for epidemiological monitoring of work-related health problems, is a major national-level longitudinal research programme aimed at monitoring the health of the economically active population in France. COSET monitors developments in the health and careers of workers from two social security platforms, the Mutualité Sociale Agricole (MSA), the insurance scheme for the agricultural sector, and Régime Social des Indépendants (RSI), the insurance scheme for self-employed or independent workers. Employees affiliated to the general regime are covered through another study called CONSTANCES. As the first large-scale national-level programme for monitoring people's health at work in France, COSET aims to study the whole of the economically active population, regardless of sector, age or employment status. It will also continue to monitor participants' health after retirement to measure long-term health effects.

#### 1.2 Aim of the initiative

The objective of the COSET programme is to monitor the health of the economically active population to provide a better understanding of the links between occupational exposures and work-related diseases. The programme will help to identify those occupations and working conditions that pose a risk to the health of workers and provide recommendations for prevention of disease, including MSDs.

Specific objectives are as follows:

- to describe and monitor the links between morbidity/mortality of workers and occupational exposure, whether they are physical, chemical, psychosocial or organisational;
- to calculate morbidity/mortality fractions from occupational exposure factors;
- to facilitate the establishment of ad hoc studies on issues that emerge;
- to identify and monitor sub-populations affected by specific risks on a large scale;
- to compare workers who are affiliated with different social security schemes and monitored as part of the COSET programme.

#### 1.3 Organisations involved

The project is run by the National Public Health Agency (Santé Publique France), in partnership with the MSA, the insurance scheme for the agricultural sector, and the RSI, the insurance scheme for self-employed or independent workers. The Institute for Health Surveillance developed the initial pilot study that inspired the larger project.

The National Public Health Agency, Santé Publique France, was created on 27 April 2016, as a result of the merging of the French Institute for Public Health Surveillance (l'Institut de veille sanitaire, InVS), the French

Institute for Health Promotion and Health Education (Inpes) and the Establishment for Public Health Emergency Preparedness and Response (Eprus).

## 1.4 What was done and how

The COSET Programme was set up by the Department of Occupational Health (DST) of the French Institute for Public Health Surveillance (InVS) to improve the epidemiological surveillance of occupational risks in France through a longitudinal system for monitoring the health of the population in relation to work, including MSDs, mental health problems, cardiovascular and respiratory problems, and cancer.

Before launching the programme on a national scale, InVS had carried out two pilot studies, COSET-MSA and COSET-RSI, to test the procedures and to adjust them, if necessary, to launch large-scale studies. These first studies were carried out in 2010 and 2012 and are now completed. After the completion of the pilot phase, the data were analysed and the questionnaire was adapted for national extension.

A total of 1,100 agricultural workers participated in the pilot COSET-MSA to provide a better measure of the link between agricultural work and health problems. MSDs account for the vast majority of work-related illness in the French agricultural sector.<sup>1</sup> This pilot study identified upper-limb musculoskeletal symptoms in 54 % of male participants and 67 % of female participants, suggesting a need for preventive action.

The pilot study was subsequently broadened to include a far larger sample of workers on a national scale. The first phase of the project involved surveying 60,000 participants, all of whom were covered by either the MSA or the RSI insurance schemes in 2016. Participants were randomly selected from those workers covered by these two schemes and asked to provide information through the self-administered questionnaire. It should be noted that, although members of the MSA are mainly agricultural workers, some workers from other sectors are also registered under the scheme. In addition to the information collected through the questionnaire, administrative data have been collected from medical administrative databases. The questionnaires were emailed to those selected in late 2017. Data collection through the questionnaire ended in July 2018. The results are currently being analysed and the findings will be made available in 2019. A follow-up study with the same participants will be undertaken in 2020.

The information requested in the questionnaire includes:

- sociodemographic data;
- health information, including physiological data such as height and weight, medical history and self-assessment of the improvement/degradation in health status;
- health behaviour, such as tobacco and alcohol consumption;
- current employment;
- current working conditions, for example working time, work intensity, psychosocial factors, physical work load, including exposure to MSD risk factors;
- employment and occupational history.

## 1.5 What was achieved

The first results from this first phase of the programme will be available in 2019, making it impossible to assess the results and the impact of the programme at the moment. However, the pilot project has provided some interesting results in relation to the health status and morbidity of agricultural workers, including on the prevalence of different types of MSDs. The extended programme will provide data on a much broader scale. It is certain that a programme on such a large scale will provide a valuable insight into the health status and morbidity of the working population in France in relation to occupational factors and a better understanding of the link between occupational exposures and health. By identifying occupations and working conditions that pose a risk to the health of workers, the programme has the potential to contribute to better prevention.

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<sup>1</sup> Estimated to be for 93 % in 2012.

Although clearly a long-term initiative, the programme provides a valuable indication of the effort and forward planning necessary to develop a clear and comprehensive understanding of the causes and impacts of MSDs, especially those with a chronic element.

## 1.6 Success factors and challenges

The initiative places a strong emphasis on following the same people over a period of several years, including into retirement. This allows the researchers to monitor the evolution of health problems, including those that might manifest only in the long term. Such 'prospective' studies are a valuable tool in epidemiology, especially in respect of establishing evidence for likely causation. The programme took a broad approach to the selection of participants and to monitoring; thus, study results will cover the entire country and different professions.

Success factors include testing the programme on a smaller scale before launching it on a national scale and adjusting the questionnaire, the research protocol and the operational processes based on the lessons learned during the pilot phase.

During the pilot study, the human resources involved were also assessed. This showed that a wide range of expertise, including in scientific fields, legislation, information technology (IT), publishing and communication, is required for the implementation of such a programme. The assessment emphasised the importance of not underestimating the human resources needed to ensure the success of such a vast undertaking (4).

Ensuring good response rates seemed to be a challenge during the pilot study. Sending reminders proved effective: 40.8 % of the questionnaires were received after a reminder was sent. A survey of non-respondents was also carried out in the pilot phase to gain a better insight into non-participation bias.

## 1.7 Transferability

The initiative has high transferability in regard to countries that offer social insurance schemes that recruit a large segment of the population affected by MSDs. Individuals enrolled in this platform typically remain enrolled for a long duration, spanning their working life and leading into retirement, which can facilitate the tracking and gathering of their information through questionnaires.

## 2 National background

According to Eurostat, data from Labour Force Survey (EU-LFS) ad hoc modules show that, in the 5 years from 2007 to 2013, the percentage of workers in France reporting some form of musculoskeletal disorder (MSD) rose from 47.3 % to 57.7 %. This has been compared with the trend across the EU overall, which shows an increase from 54.2 % to 60.1 % in the same period. Nevertheless, national data published by Health Insurance — Occupational Risks (Assurance Maladie-Risques Professionnels) on occupational accidents and diseases show a decreasing trend in occupational diseases, including MSDs, since 2012. The trend continued in 2017, although the decline in the number of occupational diseases was not as significant as in previous years: -0.5 % between 2016 and 2017 against -4.3 % between 2015 and 2016. MSDs show a similar decrease (-0.4 % in 2017 against -4.1 % in 2016). In contrast, there has been a 35 % increase in mental health problems of occupational origin, with 806 recognised cases in 2017.

National legislation implementing the provisions of the Manual Handling Directive goes beyond the provisions of the relevant directive in respect of the weights that can be handled. Article R4541-9 of the Labour Code quantifies the conditions applicable to the manual handling of a load by a worker. It states that, when manual handling is unavoidable and mechanical equipment cannot be implemented, a (male) worker may be allowed to handle loads greater than 55 kg, only if he has been authorised to do so by an occupational physician. Even with such authorisation, these loads cannot exceed 105 kg. Women are not allowed to handle loads greater than 25 kg or carry loads greater than 40 kg with a wheelbarrow (wheelbarrow weight included). Pregnant women are further protected, with Article D4152-12 of the Labour Code stating that pregnant women cannot be asked to use a two-wheeled trolley (hand truck). Finally, Article D4153-39 of the Labour Code restricts the maximum loads that can be handled by young workers (< 18 years).

National implementation of the Display Screen Equipment Directive contains a minor change, in that 'typewriters with windows' are not excluded.

Psychosocial risks in general are covered by the general safety and health obligations laid down by the Labour Code (and the courts are increasingly recognising the management of psychosocial risks as part of the employer's duties). However, specific legislation covers the issue of harassment (covering psychological as well as physical and sexual harassment).

## References and resources

- (1) COSET website. Available in French at: <http://www.coset.fr/>
- (2) Cercier, E., Fouquet, N., Bodin, J., Chazelle, E., Geoffroy-Perez, B., Brunet, R., Roquelaure, Y., 2015. Prevalence of upper-limb musculoskeletal symptoms in French agricultural workers in 2010: results of the pilot phase of COSET-MSA study. *Bulletin Épidémiologique Hebdomadaire*, 8. Available in French at: [http://invs.santepubliquefrance.fr/beh/2015/8/2015\\_8\\_1.html](http://invs.santepubliquefrance.fr/beh/2015/8/2015_8_1.html)
- (3) Constances programme website. Available in French at: <http://www.constances.fr/cohorte/presentation-constances.php>
- (4) Coset Program: Cohorts for epidemiologic surveillance in the workplace. First evaluation of the pilot phase setting up a cohort of current workers enrolled in the farmers' and agricultural workers' social insurance fund at inclusion — Coset-MSA Cohort — Summary. Available at: [http://www.invs.sante.fr/content/download/45567/201778/version/.../synthese\\_Coset\\_uk.pdf](http://www.invs.sante.fr/content/download/45567/201778/version/.../synthese_Coset_uk.pdf)

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