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**Secretariat**  
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**Full proposal reference oc-2009-2-5703 for a COST new Action**

Subject: Full proposal for a new COST Action:  
Modernet, a network for development of new techniques for discovering trends in  
occupational and work-related diseases and tracing new and emerging risks

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**National Coordinator:** [\*]

**Domain Committee:** Individuals, Societies, Cultures and Health

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*[\*] Will be completed by the COST Office*

**DRAFT**  
**MEMORANDUM OF UNDERSTANDING**  
**For the implementation of a European Concerted Research Action**  
**designated as**

**COST Action**

**Modernet, a network for development of new techniques for discovering trends in occupational  
and work-related diseases and tracing new and emerging risks**

The signatories to this "Memorandum of Understanding", declaring their common intention to participate in the concerted Action referred to above and described in the "Technical Annex to the Memorandum", have reached the following understanding:

1. The Action will be carried out in accordance with the provisions of document COST 299/06 "Rules and Procedures for Implementing COST Actions", or in any new document amending or replacing it, the contents of which the Signatories are fully aware of.
2. The main objective of the Action is [\*]
3. The economic dimension of the activities carried out under the Action has been estimated, on the basis of information available during the planning of the Action, at [\*] Euro [\*] million in [\*] prices.
4. The Memorandum of Understanding will take effect on being signed by at least five Signatories.
5. The Memorandum of Understanding will remain in force for a period of years, calculated from the date of the first meeting of the Management Committee, unless the duration of the Action is modified according to the provisions of Chapter V of the document referred to in Point 1 above.

*[\*] Will be completed by the COST Office*

## **A. ABSTRACT & KEYWORDS**

### **A.1 ABSTRACT**

Occupational diseases (ODs) impose a heavy burden on both workers and employers and represent enormous economic costs. In general the information on incidence and prevalence of occupational diseases is rather poor and inconsistent between countries, and there is an urgent need for new methods and instruments to trace new and emerging occupational health (OH) risks. This Action's objective is to develop a network for exchange of knowledge on, and setting the basis for comparative evaluation and development of new techniques to enhance the information on trends in ODs, on discovering and validating new OH risks more quickly (data mining, workers' and physicians' reporting coupled with novel statistical techniques) and use of modern techniques to discuss and disseminate information (platforms, social media). The network starts with centres of excellence in OH in 10 European countries. It will organize meetings, initiate collaborative activities and innovation projects, exchange and disseminate information.

This Action will provide: 1. New and smarter techniques for early detection of trends of ODs, 2. Early detection of new OH risks and early search for less risky substances, technologies or working practices, 3. Rapid exchange of research knowledge with the use of (new) internet techniques such as social media and 4. Appropriate preventive action.

### **A.2 Keywords**

Occupational Health Research, Work-relatedness, Occupational Diseases, Knowledge exchange, Innovation

## **B. BACKGROUND**

### **B.1 General background**

*Definition of the topic and relevance of the Action:*

Each day 5,330 people die because of work-related diseases worldwide (Hämäläinen et al, 2009). The annual number of non-fatal work-related diseases has been estimated by the ILO to be 160 million (ILO, 2005). Estimates of the economic costs of occupational diseases for the EU countries range from 2.6% to 3.8% of GNP. This indicates a total cost of between €185 billion and €270 billion for the EU as a whole (OSHA, 1999). The EU strategy for health and safety at work 2007-2012 underlines the need to reduce the incidence of ODs (European Commission, 2007). A prerequisite for realization of this new EU policy is a reliable and comparable system for monitoring ODs that makes it possible to determine Europe wide trends using consistent methodology such as has been recently described (McNamee et al, 2008). This can only be achieved by international collaboration. Furthermore, the EU Community strategy emphasizes the importance

of better identifying and assessing new risks in a changing work environment (item 7.1) through more research, exchange of knowledge and practical application of results. The activities of EU-OSHA Bilbao Risk Observatory and Helsinki REACH Information Centre are aimed at identifying novel causes from a risk-perspective. Our consortium adds another perspective by identifying possible novel causes from the perspective of health consequences of new or emerging risks by studying reported cases and health statistics (“disease first approach”). When addressing trends in work related ill health, not only the classical and well defined lists of occupational diseases (Commission of the European Communities, 2003; O’Neill et al, 2008) are included, but also a much larger category of work related illness such as musculoskeletal and mental disorders which are at this moment poorly defined. Achieving a validated consensus on methodology to measure these trends is needed.

To be able to detect and validate new OH risks at an early stage it is imperative to collaborate on a European scale and to facilitate the exchange of information and knowledge. Modernet will serve as a European intelligence centre for providing strategic information on work-related and occupational diseases including new and emerging risks for governments and private entrepreneurs. Our main objective is to create this ‘intelligence network’ by creating facilities to exchange knowledge on new techniques to enhance the information on trends in occupational diseases (i.e. record linking, surveys), on discovering and validating new OH risks more quickly (data mining, workers’ reporting) and use of modern techniques to discuss and disseminate information to all stakeholders (platforms, social media). The network starts with centres of excellence in OH research in 10 European countries, with the possibility of expanding it further.

*Reasons why COST offers the appropriate framework for the Action:*

Modernet aims to collaborate on developing new techniques to identify trends in work-related and occupational diseases, new techniques for the detection of new OH risks, new ways to disseminate relevant information to target groups and new methods for rapid conversion into policy and practice to enhance prevention. The centres in the participating countries have their own research funds or governmental subsidies for executing their assignments and research. What is lacking is the opportunity to exchange knowledge between the centres and to collaborate in developing new methods. COST offers the opportunity to collaborate in this innovative field of research and collaboration.

*Benefits of the Action:*

- New and smarter techniques to identify trends in work-related and occupational diseases,
- Early detection of trends of occupational diseases
- Early detection of new occupational safety- and health risks (OSH Vigilance)
- Rapid exchange of research knowledge and collaboration in research projects with the use of (new) internet techniques such as social media
- Identification, assessment and promotion of appropriate preventive action and methods for rapid conversion into policy and practice

*References:*

- Hämäläinen et al. Global trend according to estimated number of occupational accidents and fatal work-related diseases at region and country level. *J. Safety Research* 40 (2009)125–139
- ILO (2005): Decent work - safe work. Introductory report to the XVIIth World Congress on Safety and Health at Work, Geneva, ILO
- European Agency for Safety and Health at Work (OSHA). Report on economic importance of health and safety measures. Bilbao (Spain): European Agency for Health and Safety at Work, 1999.
- European Commission: EU strategy for health and safety at work 2007-2012. (2007/C 145/01)
- McNamee et al. Measurement of trends in incidence of work-related skin and respiratory diseases, UK 1996-2005. *OEM* 2008;65:808-814
- Commission of the European Communities. Commission Recommendation of 19/09/2003 Concerning the European Schedule of Occupational Diseases, Report No. C(2003) 3297 (2003) Brussels: Commission of the European Communities
- O'Neill et al. The validity and reliability of diagnoses of work-related mental ill-health. *OEM* 2008 65:726-731

## **B.2 Current state of knowledge**

There are strong health, social and economic reasons to prevent occupational diseases. However, existing registries often do not provide appropriate information for preventive policy. Members of Modernet network have already made significant advances in improving the current situation. Several countries, like the UK and the Netherlands have improved their data on occupational diseases by collecting data from a range of sources such as GPs (Hussey et al, 2008) and specialist physicians (McNamee et al, 2008; Pal et al, 2009), more reliable estimates can be obtained through triangulation (using information from several sources). Steps have also been taken to improve physician participation (Spreeuwers et al, 2008, Lenderink et al, 2009) and to study the validity of the diagnoses (O'Neill et al, 2008; Spreeuwers et al, 2008). In a European study an audit tool has been developed for the quality of registries of occupational diseases (Spreeuwers et al, 2009).

Working life is changing with an increasing pace and therefore new types of ODs are likely to occur and methods for their rapid identification should be developed. New methods to trace newly occurring occupational diseases have been investigated for example by the network members in the UK and in France (Jarvis et al, 2005; Bonnetterre et al, 2008 and 2009).

The Action will be innovative in the way that ideas of the different centres can be exchanged on new methods to identify trends in work-related and occupational diseases and detect new OH risks, and on methods to disseminate information effectively to target groups. The Action makes it possible to experiment with these new methods in the participating countries. Moreover, new information on trends and emerging OH-risks can be disseminated more quickly to target groups in different countries by using new methods like internet platforms and social media.

### *References:*

- Hussey et al. Work-related ill health in general practice, as reported to a UK-wide surveillance scheme. *Br J Gen Pract* 2008;58(554):637–640
- McNamee et al. Measurement of trends in incidence of work-related skin and respiratory diseases, UK

1996-2005. OEM 2008;65:808-814

- Pal et al. Notification of occupational skin diseases by dermatologists in The Netherlands. *Occupational Medicine* 2009 59(1):38-43
- Spreeuwers et al. Sentinel surveillance of occupational diseases: a quality improvement project. *Am J Ind Med.* 2008 Nov;51(11):834-42
- Lenderink AF, Spreeuwers D, van der Klink JJ, van Dijk FJ. Information and feedback to improve occupational physicians' reporting of occupational diseases: a randomised controlled trial. *Int Arch Occup Environ Health.* 2009 Oct 15. [Epub ahead of print].
- O'Neill et al. The validity and reliability of diagnoses of work-related mental ill-health. *OEM* 2008 65:726-731
- Spreeuwers et al. Diagnosing and reporting of occupational diseases: a quality improvement study. *OM* 2008; 58(2): 115-121
- Spreeuwers et al. Characteristics of national registries for occupational diseases: international development and validation of an audit tool (ODIT). *BMC Health Serv Res.* 2009 Oct 23;9:194.
- Jarvis et al. Relationship between chemical structure and the occupational asthma hazard of low molecular weight organic compounds. *Occup Environ Med.* 2005 Apr;62(4):243-50.
- Bonneterre et al. Programmed health surveillance and detection of emerging diseases in occupational health: contribution of the French national occupational disease surveillance and prevention network (RNV3P) *OEM* Published Online First: 22 September 2009
- Bonneterre et al. Detection of emerging diseases in occupational health: usefulness and limitations of application of pharmacovigilance methods in the database of the French national occupational disease surveillance and prevention network (RNV3P). *OEM* 2008;65:32-37

### **B.3 Reasons for the Action**

The reason for launching the Action is the need for effective prevention of occupational diseases. The health impact and economic costs of occupational diseases are still very high in Europe. This goal fits in the EU strategy for health and safety at work 2007-2012, which underlines the need to reduce the incidence of ODs. A prerequisite for preventive policy is the development of reliable methods for monitoring trends in occupational diseases and techniques to trace new OH risks at an early stage.

#### *Immediate benefits:*

- Different European countries can benefit from the already developed knowledge from other participating countries.
- New information can be exchanged and disseminated earlier and quicker to target groups in more countries.

#### *Future benefits:*

- Better methods for monitoring occupational diseases will enable governments and EU policymakers to implement more effective measures for prevention of occupational diseases. This will improve the health of workers in European countries and save economic costs.
- Collaboration between countries and better methods for effective dissemination of information relevant for prevention of occupational diseases to different target groups will improve the quality and impact of preventive measures.

#### **B.4 Complementarity with other research programmes**

Members of the Modernet consortium have participated in several European activities concerning for example international comparisons of statistics on occupational diseases (e.g. Eurostat) and development of occupational health indicators.

A concrete example is the EU-supported project (ECHI / ECHIM) regarding the further development of indicators (also for working health) somewhere (for further information see [http://www.healthindicators.eu/healthindicators/object\\_document/o5415n28314.html](http://www.healthindicators.eu/healthindicators/object_document/o5415n28314.html)).

### **C. OBJECTIVES AND BENEFITS**

#### **C.1 Main/primary objectives**

The main objective of the Action is to establish and maintain a European network of closely linked collaborating centres for exchange of information on • developing new techniques for discovering trends; • developing new techniques for tracing new and emerging Occupational Health risks; • using new techniques for dissemination and discussion; • new methods for rapid conversion into policy and practice to enhance prevention. The ultimate goal of this Action is to improve the prevention of occupational diseases and work-related ill health.

#### **C.2 Secondary objectives**

The **operational objectives** are:

To initiate and maintain a permanent network of European network of centres for Occupational Health research in order to:

- Exchange and integrate emerging knowledge on occupational diseases and work-related ill health.
- Facilitate cooperation and knowledge sharing amongst multidisciplinary OH researchers across Europe including new researchers in the process.
- Initiate new research projects and programs at an international level.

- Provide high quality information that can be used by international and national preventive and other advisory agencies and bodies.

The **specific scientific objectives** include achieving evidence based consensus on:

- How to define and diagnose new and previously poorly defined ODs and other work-related conditions and assign occupational attribution?
- How to disseminate knowledge on identifying work-relatedness and how to educate reporting workers and physicians?
- How to ensure maximal reporting of identified cases to the national registries and observatories?
- How to identify and validate new OH risks?
- How to determine the most appropriate statistical methods to measure trends or identify new causal associations?
- How to determine what tools are effective in communicating and managing risks and perceived risks?

### **C.3 How will the objectives be achieved?**

The centres and scientists participating in this COST Action are at the forefront of research in clinics, epidemiology, monitoring and disseminating knowledge in the occupational health and safety field. The network that will be established in this Action will initiate, stimulate and coordinate knowledge exchange and joined projects between research groups and research centres across COST countries. The participants of the COST Action not only represent different expert institutes in the field, they also provide access to representatives of target groups and end users (i.e. occupational physicians, scientific researchers, educators, national and local government agencies, advisory bodies, risk assessors, employers and employees and their representatives, health economists and policy advisers) ensuring targeted dissemination of emerged knowledge and translational character of this COST Action.

The scientific task and activities will be distributed among 4 Working Groups (WGs). The participants of the network will closely cooperate within a specific WG that will be coordinated by a WG leader. These WGs have the assignment to take initiatives and to collaborate on their part of the objectives. Each Working Group will publish a final report with an evaluation of the achieved results of the COST Action. Collaboration between the Working Groups is promoted by the Steering group and by the network meetings.

To enable continuous communication and exchange of information within and among WGs, an IT infrastructure and electronic platform that will support documentation, storage and exchange of data will be generated. The electronic platform will include about a public area (with e.g. announcements, publications which are not protected by a copyright, presentation of the COST Action etc.) and a password protected security area to access more confidential data.

The number of scientists currently interested in the Action (currently 10 institutes across 10 COST countries) is estimated to 35 person-years of research activities.

This Action will further encourage students and young researchers to attend workshops and meetings provided by other institutes when possible, independently from the meetings (at least once a year) which will be organized by this COST Action. Furthermore they will be invited to visit other institutes in Short-Term Scientific Missions to learn and improve their competences and skills. At least two scientific conferences will be organised, where researchers will present the progress of research in their WG, bottle-necks and future perspectives.

#### **C.4 Benefits of the Action**

This COST Action will increase the understanding of measuring trends in occupational diseases and tracing new occupational health risks. This will enhance the possibilities of prevention of work-related illness considerably and reduce the economic burden of occupational diseases and work-related ill health.

Specific benefits of the Action are the development of new and smarter techniques to identify trends in work-related and occupational diseases for

- Early detection of trends of ODs – hence implementation and evaluation of control measures.
- Early detection of new OH risks (OSH Vigilance) - early search for less risky substances, technologies or working practices thus rendering a safer workplace, a healthier workforce and competitive advantage.
- Rapid exchange of research knowledge and collaboration in research projects with the use of (new) internet techniques such as social media.
- Identification, assessment and promotion of appropriate preventive action and methods for rapid conversion into local, national and international policy and practice.

#### **C.5 Target groups/end users**

Target groups and end users may vary over the specific objectives of the Action:

- Evidence based consensus on how to define and diagnose new and previously poorly defined ODs and other work-related conditions as well as assignment of occupational attribution is targeted at primary end users like occupational physicians and scientific researchers.
- Evidence based consensus on how to disseminate knowledge on identifying work relatedness and how to educate reporting workers and physicians is targeted at primary end users like scientific researchers and educators.
- Evidence based consensus on how to ensure maximal reporting of identified cases to the national registries and observatories is targeted at primary end users like scientific researchers of OH institutes

and national registries.

- Evidence based consensus on how to identify and validate new OH risks is targeted at all stakeholders: national and local government agencies, advisory bodies, risk assessors, manufacturers and employers, employees' representatives. The primary end users might be scientific researchers of OH institutes and national registries.
- Evidence based consensus on how to determine the most appropriate statistical methods to measure trends or identify new causal associations is targeted at primary end users like scientific researchers of OH institutes and national registries, health economists and policy advisers.
- Evidence based consensus on how to determine what tools are effective in communicating and managing risks and perceived risks is targeted at primary end users like scientific researchers of OH institutes and national registries, national and local government agencies, advisory bodies, risk assessors and business people.

## **D. SCIENTIFIC PROGRAMME**

### **D.1 Scientific focus**

This Action will coordinate the following main research tasks in order to achieve the objectives described in Section C.1 and C.2:

#### *Developing new techniques for discovering trends*

- How to determine the most appropriate statistical methods to measure trends or identify new causal associations?
- How to ensure maximal reporting of identified cases to the national registries and observatories?
- How to define and diagnose new and previously poorly defined ODs and other work-related conditions and assign occupational attribution?

#### *Developing new techniques for tracing new and emerging Occupational Health risks*

- How to identify and validate new OH risks?

#### *Using new techniques for dissemination and discussion*

#### *Using new methods for rapid conversion into policy and practice to enhance prevention*

- How to disseminate knowledge on identifying work-relatedness and how to educate reporting workers

and physicians?

- How to determine what tools are effective in communicating and managing risks and perceived risks?

To accomplish the objectives, the scientific program will be implemented in four Working Groups (WGs).

- WG1: (*quality of data*) will coordinate the improvement of quality of data collection in occupational diseases
- WG2: (*trends analysis*) will coordinate the application of new techniques and methods for analysis of trends in occupational diseases
- WG3: (*tracing new risks*) will coordinate new techniques for tracing newly occurring occupational diseases (such as data mining, sentinel approach etc.)
- WG4: (*dissemination*) will coordinate dissemination and implementation of new knowledge on occupational diseases to target audiences

## **D.2 Scientific work plan methods and means**

In order to achieve the objectives of this Action (as outlined in Part C.1 and C.2) close cooperation and exchange of knowledge between the four WGs will be essential. Improved methods for data collection will help generate more valid data for trends analysis. Both trends analysis and tracing of new risks will generate new knowledge on occupational diseases and work-related ill health that will be assessed and communicated to participating OH centres and relevant stakeholders.

### **WG1: improvement of quality of data collection in occupational diseases**

In order to evaluate whether targets of reduction in occupational illnesses have been achieved by policy measures, it is necessary to monitor occupational diseases in a valid and reliable way. Valid monitoring presupposes clear case definitions of occupational diseases and valid instruments for assessment. Furthermore, for reliable monitoring the case capturing process and the data recording process have to meet certain requirements. For good comparability of figures between countries, it is necessary to harmonize definitions and methods concerning the registration of occupational diseases.

Although almost everyone acknowledges the importance of a preventive policy towards occupational diseases, there are diverging interests between the various stakeholders concerning how to deal with this issue. The parties that have to pay for the prevention of occupational diseases or to compensate for them - for example employers and insurers - will probably propose higher demands concerning the evidence of a causal relationship than workers and their representatives. On the other hand, workers and their organizations do not always feel that it is in their interest to detect occupational diseases, for example if there is a threat that they will lose their jobs either as individuals or as members of a collective of workers in a high-risk sector of industry.

Furthermore, information on the severity and impact of the diseases is important for decision-making in preventive policy. Moreover, the incidence rate, the severity and the impact of a disease can provide arguments when deciding for which diseases preventive activities should be financed. In general, registries of occupational diseases do not provide information on the severity or impact of the diseases. Despite variations in registration guidelines in different countries, general occupational disease registries probably contain the relatively more severe cases of occupational disease, which result in relatively higher costs. Therefore, it might be relevant for policy purposes to perform follow-up studies of the cases from registries.

With respect to work-related stress and mental ill health, this problem has the second highest incidence of work related ill health according to data from GPs trained in occupational medicine (Hussey et al. 2008) and the highest burden of sickness absence attributable to work. However since work-related stress and mental ill health has not been covered by the EU definitions it is important that this gap is addressed. Within the consortium there have been performed studies on the agreement between physicians in diagnosing these conditions (O'Neill et al. 2008). Therefore in view of the importance of work-related stress and mental ill health as a burden in the EU, a 'Cochrane' review will be undertaken on the evidence based criteria for making a diagnostic attribution. The review would consider 'interventions' for reporting occupational disease. The review output would then be used in order to improve the accuracy and validity of existing reporting procedures. Thus a Delphi consensus will be undertaken involving experts from this consortium and others in order to achieve a definition (which can then be evaluated) for these conditions.

The role of different sampling strategies to achieve optimal response will be considered e.g. comparing random month sampling of occupational physicians' reporting versus every month of the year reporting (McNamee et al. in press).

#### Specific actions:

1. Cochrane review on work-related stress and mental ill health
2. Delphi study for defining work-related conditions
3. Development of a guideline for evidence based development of case definitions of occupational diseases
4. Development of a workshop for the implementation of evidence based case definitions. The workshops can be used in the participating countries.
5. Studies on workers' and doctors' conceptions of occupational diseases.
6. Assessment of the information needs of stakeholders for prevention of occupational diseases and the developments of tools to satisfy these needs
7. Evaluation of different sampling strategies to achieve optimal response

#### References:

- Hussey L. Turner S. Thorley K. McNamee R. Agius R. Work-related ill health in general practice, as reported to a UK-wide surveillance scheme. *British Journal of General Practice*. 58:637-40, 2008
- O'Neill E. McNamee R. Agius R. Gittins M. Hussey L. Turner S. The validity and reliability of diagnoses

of work-related mental ill-health. *Occupational & Environmental Medicine*. 65:726-31, 2008.

- McNamee R, Chen Y, Hussey L, Agius R. Randomised Controlled Trial comparing time-sampled versus continuous time reporting for measuring incidence. (*Epidemiology* -in press)

## **WG2: Application of new techniques and methods for analysis of trends in occupational diseases**

The ability to measure temporal trends in work-related ill-health is important, not only for tracking new problems but also to show whether policy changes and interventions at a national, or international level, have had an impact. In the absence of an ideal data capture surveillance scheme, i.e. one with complete reporting, the establishment of reliable measurements of year to year changes is not a trivial problem. Furthermore, as argued elsewhere (McNamee et al. 2006, 2008) and expanded below, the problems of estimating change in risk from imperfect systems are not the same as those for measuring absolute risk. WG2 will be concerned with the former issue, in contrast with WG1 which is concerned with improvement of estimates of absolute risk. The ultimate objective of WG2 would be to establish a consensus on best practice for establishing true *change* in population risk over time using methods that are, as far as possible, free from bias.

WG2 will build upon existing work (McNamee et al, 2006) which used multi-level statistical models (MLM; also called random effects models) to analyse the data. This work considered the problem of change estimation from surveillance data within the context of a number of surveillance schemes in one of the member countries. This is the first study of this type worldwide. McNamee et al (2006) first noted that incidence underestimation need not compromise estimation of change in incidence and then went on to outline those issues that do need to be taken into account when assessing change: e.g. temporal changes in the size of the reporter base, changes in reporter behaviour (e.g. non-response), reporting fatigue, level of reporting (e.g. primary, secondary or tertiary care). WG2 will extend this work to other member countries, taking into account the differing characteristics of the surveillance schemes.

There would be two components to the work which, while overlapping to a degree in their methods with WG1 have different objectives and initial outputs. In the first part, consortium members will assess the nature of extant surveillance schemes and data sources for the objective of establishing temporal changes. It is expected that schemes will have their special features reflecting, perhaps, the role and funding of occupational health provision in each country, local regulatory conditions, the commitment of reporters to the goals of surveillance and administrative arrangements, e.g. the extent to which non-response is monitored and efforts made to retain and maintain reporting.

In the second part, the aim will be to reach a consensus on the most appropriate methods for tracking change in incidence for each country represented by consortium members. As part of this work at least three case studies would be identified and described in which the impact of an intervention to prevent a specific problem is assessed through temporal changes in surveillance data. This work would also consider any changes that might be necessary within existing arrangements to improve the estimation of change. For this final task, there would of course be close consideration of the objectives of WG1 which seeks to find better methods for estimating absolute incidence rates.

#### Specific actions:

1. Consensus on best practice for establishing true *change* in population risk over time.
2. Extend the trend analyses performed in the UK to other member countries.
3. Consensus on the most appropriate methods for tracking change in incidence for each country.
4. Three case studies overall where the impact of an intervention to prevent a specific problem is assessed through temporal changes in surveillance data.

#### References:

- McNamee R, Carder M, Chen Y, Agius R. 2006. Time trends in the incidence of work-related disease in the UK, 1996-2004: estimation from ODIN/THOR surveillance data. Report on the internet at: <http://hse.gov.uk/statistics>
- McNamee et al. Measurement of trends in incidence of work-related skin and respiratory diseases, UK 1996-2005. *OEM* 2008;65:808-814

#### **WG3: New techniques for tracing newly occurring occupational diseases (such as data mining, sentinel approach etc.)**

One of the main gaps in occupational health surveillance is that most of the surveillance systems are dedicated to monitor already well characterized occupational diseases (OD). Tracing newly occurring OD is one of the four objectives of the Modernet network more widely dedicated to Occupational Diseases monitoring. Modernet partners started to exchange on this theme during their 3 last workshops (2007-2009). Because early detection of ODs supposes detection when the disease is still rare, they are convinced that a strong and structured cooperation between OH centres specialized in OD research (and future participant OH centres) would strongly intensify their ability to detect and investigate newly occurring OD.

To achieve this goal they first use qualitative methods, based on quick sharing of clinical cases of interests in terms of new etiology or circumstances of apparition (“clinical signal”), with the aim of searching similar cases in participating countries (“signal strengthening”), and of building a common expertise upon these situations. Some of these situations might deserve specific alerts to EU and national institutions, occupational health physicians, employers and other preventive measures stakeholders (“productive outcome”). This activity would also lead to common publications wearing a stronger medical interest when similar cases are recruited. Already existing systems from the participating teams are iterative scanning of routine surveillance reporting (THOR) for new agents not previously reported, THOR-Extra Network (UK), and RNV3P clinical warning procedures (France). Some of the Modernet participants started to exchange clinical information on these specific cases in 2009 (Modernet workshop proceedings). These communications would gain in interest if made in real time; with a defined procedure (structuring and traceability of exchanges, consultation and implementation by all members, moderation and follow-up ensured by one member, as for example the reporting physician).

Secondly, the research background of these teams also allow them to explore quantitative methods and refine

them in the light of OD specificities, analyze their expected benefits, and study the conditions of their generalization to the existing Data sources in the Occupational Health field, for a practical use (“productive outcome”). This part includes the use of Safety Data Mining methods, as the “disproportionality” metrics used in pharmacovigilance (Bonneterre et al, 2009, Bonneterre et al, 2008) in order to detect previously unknown “disease x exposure” situations that seem to be more frequently reported than expected, the use of network-based approaches (as used in biology or social sciences) to better characterize multi-exposure (Bonneterre et al. 2009, Faisandier et al, 2007, Faisandier et al. submitted), the use of QSARs models (Quantitative Structure-Activity Relationships) to point out molecules with some expected toxicological properties (Jarvis et al, 2005, Seed et al, 2006, Seed et al, 2008), etc. The first interest of each of these methods is a hypothesis generating function. These methods may also be used together to explore the validity of a hypothesis generated by a clinician (“clinical signal”) or by one of these methods individually. If hypotheses seem to be strong enough, classical epidemiological studies may be conducted to analyze the specific questions raised, with more chance to conclude than when studies are launched upon hypotheses with very wide exposure definition.

Finally, the interest of other methods should also be studied by Modernet partners. For example, the use of GIS (Geographical Information Systems) - which have an obvious interest in terms of classical OD surveillance - should also be studied in terms of hypothesis generation (spatial autocorrelations between diseases profiles of workplaces sharing common exposures, etc.).

Specific actions:

1. Exchange of information on possible newly occurring occupational diseases (sharing of clinical cases)
2. Alerts to EU and national institutions, occupational health physicians, employers and other preventive measures stakeholders
3. Development of a defined procedure for signal tracing and follow up
4. Explore quantitative methods for signal tracing and refine them

References:

- Bonneterre et al. Programmed health surveillance and detection of emerging diseases in occupational health: contribution of the French national occupational disease surveillance and prevention network (RNV3P) OEM Published Online First: 22 September 2009.
- Bonneterre et al. Detection of emerging diseases in occupational health: usefulness and limitations of application of pharmacovigilance methods in the database of the French national occupational disease surveillance and prevention network (RNV3P). OEM 2008;65:32-37
- Faisandier et al. Elaboration d’une méthode statistique pour la détection d’événements émergents: Application au RNV3P. *Epidémiologie et Santé Animale*, Edition 2007.
- Faisandier et al. A network-based approach for surveillance of occupational health exposures. Submitted and revised for PNAS.
- Jarvis et al. Relationship between chemical structure and the occupational asthma hazard of low molecular weight organic compounds. *Occup Environ Med*. 2005 Apr;62(4):243-50.

- Seed et al. Prediction of asthma hazard of Thiamine. *Allergy* 2006;61:648
- Seed et al. Methods for the prediction of low-molecular-weight occupational respiratory sensitizers. *Current opinion in allergy and clinical immunology*. 2008;8:103-109

#### **WG4: dissemination and implementation of new knowledge on occupational diseases**

Dissemination of the results of the project will be achieved by means of several passive and active methods. It will be carried out for the whole duration of the project, either through specifically targeted activities or in the frame of the scientific activities that all the applicants are carrying out at national and international level. To enhance the rapid exchange of research knowledge and collaboration in research projects the network will experiment with (new) internet techniques such as social media. Furthermore, the aim is to stimulate identification, assessment and promotion of appropriate preventive action and methods for rapid conversion into local, national and international policy and practice.

Information and education for physicians as a follow up to reported cases of occupational disease has already been developed, delivered and evaluated by consortium partners (Thorley et al, 2007, Thorley et al, 2009, Lenderink et al, 2009).

To make the results of the Action manageable for prevention practice, the development of scenarios for monitoring occupational diseases on several levels is necessary. Verma et al. (2002) stated that the development of control strategies for occupational hazards takes place at the societal and the local workplace level. These two levels have differing information needs. At the societal level, control measures are usually through regulatory actions on the national level or the industrial sector level. Information is then needed on possible exposure-effect relationships as well as on workplace demographics. At the local workplace level, information is needed on the nature of the hazard, where it is likely to be encountered and the available options for risk reduction. Development of scenarios on three levels is necessary: a national scenario, a scenario for branch or sector approaches, and a scenario for the company level. The basic idea is that monitoring should be linked to preventive measures.

Specific actions:

1. Management of the website
2. Experiments with (new) internet techniques such as social media for rapid exchange of research knowledge and collaboration in research projects
3. Development of information and education material for several stakeholder groups
4. Experiments with (new) internet techniques such as social media for dissemination of research results on local, national and European level
5. Development of implementation scenarios of preventive measures on several societal levels

References:

- Thorley K, Turner S, Hussey H, Zarin N, Agius R. CPD for GPs using the THOR-GP website. *Occup. Med.*,

2007; 57: 575 - 580.

- Thorley K, Turner S, Hussey H, Agius R. Continuing professional development in occupational medicine for general practitioners. *Occup. Med.*, 2009; 59: 342 - 346.

- Lenderink AF, Spreeuwers D, van der Klink JJ, van Dijk FJ. Information and feedback to improve occupational physicians' reporting of occupational diseases: a randomised controlled trial. *Int Arch Occup Environ Health*. 2009 Oct 15. [Epub ahead of print].

- Verma DK, Purdham JT and Roels HA. Translating Evidence about Occupational Conditions into Strategies for Prevention. *Occupational and Environmental Medicine* 2002; 59 (3): 205-214]

## **E. ORGANISATION**

### **E.1 Coordination and organisation**

The COST Action will be executed by the Modernet network. The Modernet network is a network of Institutes in various countries that are responsible for the registration of occupational diseases and research in the occupational health field.

The Board of the Modernet network consists of four persons:

- Prof. Raymond Agius MD, DM, University of Manchester, UK (Action Chair)
- Dr. Claudio Colosio MD PhD, University of Milan, Italy
- Dr. Vincent Bonneterre MD PhD, University of Grenoble, France
- Dr. Dick Spreeuwers MD PhD, Netherlands Center for Occupational Diseases, Academic Medical Center/University of Amsterdam, The Netherlands

The Modernet COST Action will be coordinated by the Management Committee, in which Prof Raymond Agius and Dr. Dick Spreeuwers are appointed according to the "*Rules and Procedures for Implementing COST Actions*" (doc. COST 299/06)).

Until now there have been one or two Modernet meetings per year and the board meets if necessary. Besides the official meetings there is regular *informal* contact between the members of the network by email, phone or mutual visits. To accomplish the objectives of the COST Action four Working Groups will be installed, as described under E2.

The centres in the participating countries have their own research funds of governmental subsidies for executing their assignments and research. What is lacking is the opportunity to exchange knowledge between the centres and to collaborate in developing new methods. COST offers the opportunity to collaborate in this innovative field of research and collaboration. Participating centres are all involved in high quality and innovative research on ODs in their own country. Combining these efforts will lead to speed up the

development of methods to provide information on the trends in ODs, the tracing of new OH risks and the development of appropriate actions for prevention and rapid conversion of proposed actions in policy and practice. The centres in each country have their own extensive stakeholder network (government, employers, employees, other knowledge centres etc.). Communication with stakeholders is essential to promote appropriate action on new and emerging OH risks. The network can speed up the necessary communication to shorten the time between discovering new risks and taking preventive action. The division of the COST Action in Working Groups, in which the researchers of the participating countries will be represented, will guarantee that coordination of national research will be implemented in the COST Action.

### **Milestones of the COST Action:**

The most significant milestones (related to the activities of the Working Groups presented in part D) are:

1. Cochrane review on work-related stress and mental ill health (publication)
2. Delphi study for defining work-related conditions (publication)
3. Development of a guideline for evidence based development of case definitions of occupational diseases (guideline document)
4. Development of a workshop for the implementation of evidence based case definitions. The workshops can be used in the participating countries (work shop)
5. Studies on workers' and doctors' conceptions of occupational diseases (publication)
6. Assessment of the information needs of stakeholders for prevention of occupational diseases and the developments of tools to satisfy these needs (publication)
7. Evaluation of different sampling strategies to achieve optimal response (publication)
8. Consensus on best practice for establishing true *change* in population risk over time (consensus document)
9. Extend the trend analyses performed in the UK to other member countries (publications)
10. Consensus on the most appropriate methods for tracking change in incidence for each country (consensus document)
11. Three case studies overall where the impact of an intervention to prevent a specific problem is assessed through temporal changes in surveillance data (publications)
12. Exchange of information on possible newly occurring occupational diseases (sharing of clinical cases) (exchanges will be documented)
13. Alerts to EU and national institutions, occupational health physicians, employers and other preventive measures stakeholders (alert communications)
14. Development of a defined procedure for signal tracing and follow up (document)
15. Explore quantitative methods for signal tracing and refine them (publication)
16. Experiments with (new) internet techniques such as social media for rapid exchange of research knowledge and collaboration in research projects (information on the Modernet website)
17. Development of information and education material for several stakeholder groups (information on the Modernet website)
18. Experiments with (new) internet techniques such as social media for dissemination of research results on local, national and European level (information on the Modernet website, publication)

19. Development of implementation scenarios of preventive measures on several societal levels (document)

## **E.2 Working Groups**

The Action consists of four Working Groups each addressing a Work Package:

*WG1 Quality of data:* improvement of quality of data collection in occupational diseases (WG-leader: Dr. Dick Spreuwers)

*WG2 Trends Analysis:* New techniques for analysis of trends in occupational diseases (WG-leader: Prof. Raymond Agius)

*WG3 Tracing new risks:* New techniques for tracing newly occurring occupational diseases) (WG-leader: Dr. Vincent Bonneterre)

*WG4 Dissemination:* dissemination and implementation of new knowledge on occupational diseases (WG-leader: Dr. Claudio Colosio, in collaboration with Prof. Helena Taskinen)

The Working Groups will have one or two meetings each year. Working Groups will be composed by members of participating countries who execute research in the concerned area. Each WG will draft a detailed working plan at the start of the COST Action and report annually on activities and progress towards objectives. National research results will be discussed in the WG's and will be input for the WG activities. The WG will also initiate collaborate research and report on this on the website and in publications.

A considerable amount of interaction between WGs will be required to achieve the objectives of the Action. Therefore, cross-cutting meetings as joint WG meetings will take place between appropriate WGs whenever necessary.

## **E.3 Liaison and interaction with other research programmes**

Not applicable

## **E.4 Gender balance and involvement of early-stage researchers**

This COST Action will ensure an appropriate gender balance in all of its activities and the Management Committee will place this standards on all its MC agendas. The Action will also be committed to considerably involve early-stage researchers in particular through the activities of the Working Groups and the network meetings. This item will also be placed as a standard item on all MC agendas. Early stage researchers (ESR's), such as Masters and PhD students, will be educated through the Action in various fields of expertise. This will

give them sufficient background for their research projects and the possibility of involvement in multidisciplinary research. PhD students will also gain the experience and the independence to manage new research projects in their own countries. There are already PhD projects running in the UK, France and the Netherlands in this field.

This COST Action will take appropriate measures to maintain gender balance in all its activities. A considerable part of the scientists who have expressed an interest in participating in the Action are women. Gender balance is now a priority for most academic institutions and the applicants are aware of including women in research activities. Particular emphasis will be given to the involvement of both genders in WG's, meetings and other activities. This requirement to respect gender balance will be underlined at each MC and WG meeting.

## F. TIMETABLE

The Modernet COST Action will last four years. The Kick-Off meeting will be at the Modernet meeting in Milan in September 2010. This meeting and the installation of the Working Groups will be prepared by the Board of the network. The first milestone will be the creation of the Action website and the protected online electronic project activity organiser (portal) in the first year of the Action. Activities in WGs will commence after the launch of the Modernet Cost Action and continue until the end of the Action.

Two board meetings will be held every year. Besides the official board meetings informal contact between the board members will take place frequently by email, phone or mutual visits.

The Action's report will be produced annually in accordance with the COST guidelines. Major scientific events will be realised in 2011 (joint conference of Modernet Cost Action and ICOH Scientific Committee on Occupational Medicine in Amsterdam on tracing new occupational health risks) and in 2013/2014: final scientific conference to present the results of the COST Action

### Year One:

| Activity/Month                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|
| preparation of Kick Off meeting (board) | X |   |   |   |   |   |   |   |   |    |    |    |
| Installation of WG's                    |   | X | X |   |   |   |   |   |   |    |    |    |
| Plans of Action WG's                    |   |   |   | X | X |   |   |   |   |    |    |    |
| Development website                     |   | X | X | X | X |   |   |   |   |    |    |    |
| 1 <sup>st</sup> Network meeting         |   |   |   |   |   | X |   |   |   |    |    |    |
| Preparation congress                    | X | X | X | X | X | X | X | X | X | X  | X  |    |
| International congress                  |   |   |   |   |   |   |   |   |   |    |    | X  |
| 1 <sup>st</sup> meeting WG's (Y1)       |   |   |   | X |   |   |   |   |   |    |    |    |
| 2 <sup>nd</sup> meeting WG's (Y1)       |   |   |   |   |   |   |   |   |   | X  |    |    |

|                     |  |  |  |  |  |  |  |  |  |  |  |   |   |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|---|---|
| WG progress reports |  |  |  |  |  |  |  |  |  |  |  | X | X |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|---|---|

## Year Two

| Activity/Month                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| 2 <sup>nd</sup> Network meeting   |   |   |   |   |   | X |   |   |   |    |    |    |
| 1 <sup>st</sup> meeting WG's (Y2) |   |   |   | X |   |   |   |   |   |    |    |    |
| 2 <sup>nd</sup> meeting WG's (Y2) |   |   |   |   |   |   |   |   |   | X  |    |    |
| Board meeting                     |   |   | X |   |   |   |   |   | X |    |    |    |
| WG progress reports               |   |   |   |   |   |   |   |   |   |    | X  | X  |

## Year Three

| Activity/Month                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| 3 <sup>rd</sup> Network meeting   |   |   |   |   |   | X |   |   |   |    |    |    |
| 1 <sup>st</sup> meeting WG's (Y3) |   |   |   | X |   |   |   |   |   |    |    |    |
| 2 <sup>nd</sup> meeting WG's (Y3) |   |   |   |   |   |   |   |   |   | X  |    |    |
| Board meeting                     |   |   | X |   |   |   |   |   | X |    |    |    |
| WG progress reports               |   |   |   |   |   |   |   |   |   |    | X  | X  |

## Year Four

| Activity/Month                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| 4 <sup>th</sup> Network meeting |   |   |   |   |   | X |   |   |   |    |    |    |
| meeting WG's (Y4)               |   |   |   | X |   |   |   |   |   |    |    |    |
| Preparation congress            | X | X | X | X | X | X | X | X | X | X  | X  |    |
| International congress          |   |   |   |   |   |   |   |   |   |    |    | X  |
| Board meeting                   |   |   | X |   |   |   |   |   | X |    |    |    |
| WG progress reports             |   |   |   |   |   |   |   |   |   |    | X  | X  |

## G. ECONOMIC DIMENSION

The following COST countries have actively participated in the preparation of the Action or otherwise indicated their interest: HR,CZ,FI,FR,DE,IT,NL,NO,RS,UK. On the basis of national estimates, the economic dimension of the activities to be carried out under the Action has been estimated at 14 Million € for the total duration of the Action. This estimate is valid under the assumption that all the countries mentioned above but no other countries will participate in the Action. Any departure from this will change the total cost

accordingly.

The following COST countries have actively participated in the preparation of the Action or

otherwise indicated their interest: United Kingdom (UK), The Netherlands (NL), France (FR), Italy (IT), Finland (FI), Czech Republic (CZ), Germany (DE), Norway (NO), Serbia (RS) and Croatia (HR). The UK, the Netherlands, France, Finland and Italy will participate with five researchers per country, the other participants with at least two researchers. In total at least 35 researchers will participate in the program.

On the basis of national estimates, the economic dimension of the activities to be carried out under the Action has been estimated at Million € 14 for the total duration of the Action based on the 2009/2010 prices. This estimate is valid under the assumption that all the countries mentioned above but no other countries will participate in the Action. Any departure from this will change the total cost accordingly.

## H. DISSEMINATION PLAN

### H.1 Who?

The **target audiences** for the dissemination of the results of the Action (in particular findings and recommendations) regarding the **specific objectives** represent various interest groups. Below in the first table, the specific objectives and target audiences and/or the primary end users are presented. In H2 for each target audience the ways of distribution of the information are presented.

| Specific objectives   | Target audiences   |
|---|--|
| To define and diagnose new ODs and other work-related conditions and assign occupational attribution.       | Occupational physicians, scientific researchers, specialists in the compensating bodies (insurance agencies etc.). |
| To identify and validate new OH risks.  | Scientific researchers, national and local government agencies, advisory bodies, risk assessors                    |
| To ensure maximal reporting of identified cases to the national registries and observatories.               | Scientific researchers of OH institutes, Occupational physicians, Insurance companies. Employees.                  |
| To determine the most appropriate statistical methods to measure trends or identify new causal associations | Scientific researchers   |

|  |   |
|--|---|
| To determine what tools are effective in communicating and managing risks and perceived risks. | Scientific researchers, national and local government agencies, advisory bodies, risk assessors, business people. Employers. Employees' and employers' associations. General population.  |
| Overall results of Modernet COST Action  | EU officers (DG. Employment, Social Affairs and Equal Opportunities); regulators, especially in NMS and ACC; governmental representatives; contractors of EC/national/international projects; scientists active in the field; members of other related European Union projects, WHO (in particular, the group dealing with the updating of ICD X), ILO, ICOH and the Bilbao Agency. |

## H.2 What?

| Target audiences        | Methods for information dissemination  |
|-------------------------|--|
| Occupational physicians | Articles in (peer-reviewed) scientific and professional publications<br>Posting of general information on a public website;<br>Possibility to subscribe to an alert service by electronic newsletter, e-mail or social media like twitter or Facebook.<br>Educational material to present in curricula of Academic Medical Schools - graduate education and post-graduate specialist training. Blogs<br>Chapters in textbooks and handbooks.<br>Presentations on national and international (e.g. ICOH) conferences. |

|   |   |
|---|---|
| Scientific researchers in the field   | Articles in (peer-reviewed) scientific and professional publications Presentations on national and international (e.g. ICOH) conferences. Meetings with researchers and experts at the participating OH institutes and national registries. Set up of an electronic communication network (internet discussion forum, e-mail network, etc.); Educational material to present in vocational training: Working with the Bilbao Agency (?) |
| (Inter) national and local government agencies, advisory bodies, risk assessors, insurance companies. | Official initiatives to the ministries/administrative bodies and specialists in the compensating bodies (insurance agencies etc.). Publications: state of the art reports, information letters, case study reports, proceedings, guidelines; Posting of general information on a public website; Press releases in the media (printed journals, radio, TV). Blogs. Working with the Bilbao Agency (?)                                   |
| Employers, employees, employees' and employers' associations.   | Publications: state of the art reports, information letters, case study reports, proceedings, guidelines; Posting of general information on a public website; Possibility to subscribe to an alert service by electronic newsletter, e-mail or social media like twitter or Facebook. Press releases in the media (printed journals, radio, TV). Blogs  |
| General population  | Press releases in the media (printed journals, radio, TV) Possibility to subscribe to an alert service by electronic newsletter, e-mail or social media like twitter or Facebook. Blogs   |

### H.3 How?

Dissemination of the results of the project will be achieved by means of several passive and active methods. It will be carried out for the whole duration of the project, either through specifically targeted activities or in the frame of the scientific activities that all the applicants are carrying out at national and international level. The network will experiment with rapid exchange of research knowledge and collaboration in research projects with the use of (new) internet techniques such as social media. Furthermore, the aim is to stimulate identification, assessment and promotion of appropriate preventive action and methods for rapid conversion into local, national and international policy and practice.

Based on the dissemination routes optimal mechanisms will be used:

1. The Action website will be developed to present clearly the Action's objectives and most recent achievements, as well as announcing public workshops and meetings. In addition, EU contribution will be clearly mentioned. An electronic discussion form to encourage interaction and dialogue will be implemented.

2. Documents and reporting will be given to the COST Office and the DC ISCH according to the regular procedures and to the MC and the members' password-protected web portal.
3. Announcements for the public and professionals (reports, guidelines, alerts, etc.) will be done through intensive collaboration with the partners using their ways of communication with relevant stakeholders in the participating countries.
4. Scientific publications will be done mostly in the journals preferred in the Occupational Health field and whenever applicable Public Health field or other Scientific fields.
5. Research results will be disseminated world-wide at international conferences and workshops. COST Action support will be clearly communicated in the acknowledgements.

DRAFT MOU

## **Part II - Additional Information (This part will not be element of the MoU)**

### **Part II-A . LIST OF EXPERTS**

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## Part II-B. ADDITIONAL INFORMATION

**\* Experts who may well be interested but who have not been contacted, or who have not yet replied, during the pre-proposal planning**

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- Ellen Imbernon\*, head of the Occupational Health Department of the French Institute for Public Health Surveillance (InVS), Saint Maurice, France

- Christophe Paris\*, RNV3P and Nancy University
- Yves Roquelaure\*, RNV3P, Angers University and Head of the MSD network of "Pays de Loire"
- Jacques Ameille\*, RNV3P and ONAP project (Observatoire National des Asthmes Professionnels)
- Robert Garnier\*, RNV3P and head of the French Poison Centers and Toxicovigilance system
- Michel Aptel\*, French National Institute for occupational health and safety INRS
- Régis de Gaudemaris, RNV3P, France

## **B. HISTORY OF THE PROPOSAL**

The idea of conceiving a research project on the development of new techniques for discovering trends in occupational diseases and tracing new and emerging risks was sparked by the professional experience of researchers and institutes in the changing world of work. Scattered observations on possible associations between exposure to new materials and technologies on the one hand, and various adverse health effects on the other, were published mostly as case reports, and thus brought only anecdotal evidence for the existence of causal links. To make that scientifically evidence-based, a systematic, large-scale, multicentre research into the field is needed.

To pursue the idea, participants were further encouraged by the key political documents of WHO and EU. In the Global Plan of Action on Workers' Health 2008-2017 WHO calls for the designing of systems for surveillance of workers' health with the objective of accurately identifying occupational hazards and early detection of occupational accidents and diseases. Also the New European Community Strategy on Health and Safety at Work (2007-2012) acknowledged that new and emerging risks at the workplace need more research. It was the Academic Medical Center, Netherlands Center of Occupational Diseases in Amsterdam that took up the challenge. They put together a consortium called "European NETwork for Monitoring Trends in Occupational Diseases and New and Emerging Occupational Risks (acronym: MODERNET). Originally, it consisted of five centres of excellence in the field of occupational health from five European countries: (1) Academic Medical Center, Netherlands Center of Occupational Diseases, NL, (2) The University of Manchester, Centre for Occupational and Environmental Health, UK, (3) Finnish Institute of Occupational Health, FI, (4) Center of Occupational Health, National Institute of Public Health, CZ, and (5) Occupational Medicine Clinic, University of Milan, IT. There have been meetings in Amsterdam (2007 and 2008) and Paris (2009).

The consortium designed a project entitled "Establishing a European network for monitoring trends in occupational diseases and new and emerging occupational risks". On 19 April 2007, the project was submitted as a proposal under FP7 "Cooperation Work Program: Theme 1 - Health", Support action FP7-HEALTH-2007-A, Call identifier: FP7-HEALTH-2007-A, addressing Work program topics: Health-2007-4.2-3: Research to assess the economic dimension of occupational health and safety. Although the proposal obtained the needed threshold scores in the evaluation criteria, it was not retained for funding due to insufficient availability of funds in the budget.

Despite of that, the participants decided that the consortium will stay active in building a European platform for the improvement of monitoring occupational diseases and for the identification of new occupational risks, that it will extend the number of its members and will prepare and submit another proposal. The consortium responded to an open call for COST and, on March 19, 2009, submitted an application of a project named “Modernet, a network for Research & Development of methods for monitoring occupational diseases and tracing new occupational health risks“, under the reference number oc-2009-1-4034. In the assessment by the Domain Committee on Biomedicine and Molecular Biosciences the proposal was not among the 11 top-ranked proposals invited in this Domain, and therefore was not selected for further consideration.

With careful consideration of the comments of the eight evaluators of the project, the proposal was amended. Among others it was decided to extend the number of participating centres to 10 so that the European territory is now covered representatively. The focus shifted from monitoring occupational diseases to the detection of new occupational health risks. The amended proposal was submitted to COST on September 25, 2009. The project was assigned the reference number oc-2009-2-5703.

On November 16, 2009, the preliminary proposal was approved by the Domain Committee on Individuals, Societies, Cultures and Health and has been selected for submission of a full proposal. The full proposal is to be submitted before January 15, 2010.

### **C. PRELIMINARY WORK PROGRAMME**

Not applicable

### **D. RECENT PUBLICATIONS**

**Alphabet list:** authors who expressed to be in this Action and who participated in the preparation of the proposal are underlined.

Bonneterre V, Faisandier L, Bicout D, Bernardet C, Ameille J, De Clavière C, Aptel M, Lasfargues G, de Gaudemaris R. Programmed health surveillance and detection of emerging diseases in occupational health: contribution of the French national occupational disease surveillance and prevention network (RNV3P) OEM Published Online First: 22 September 2009.

Bonneterre V, Bicout DJ, Larabi L, Bernardet C, Maitre A, Tubert-Bitter P, de Gaudemaris R. Detection of emerging diseases in occupational health: usefulness and limitations of application of pharmacovigilance methods in the database of the French national occupational disease surveillance and prevention network (RNV3P). OEM 2008;65:32-37 .

Bulat ZP, Dukic-Cosic D, Dokic M, Bulat P, Matovic V. Blood and urine cadmium and bioelements profile in nickel-cadmium battery workers in Serbia. Toxicol Ind Health. 2009 Mar;25(2):129-35.

Bulat P, Somaruga C, Colosio C. Occupational health and safety in agriculture: situation and priorities at the beginning of the third millennium. La Medicina del lavoro 2006;97(2):420-9.

Colosio C, Tiramani M, Brambilla G, Colombi A, Moretto A. Neurobehavioural effects of pesticides with special focus on organophosphorus compounds: which is the real size of the problem? *Neurotoxicology*. 2009 Nov;30(6):1155-61. Epub 2009 Sep 12.

Mustafa Dosemeci, Pierluigi Cocco, Manuel Gomez, Patricia A. Stewart and Ellen F. Heineman Effects of Three Features of a Job-Exposure Matrix on Risk Estimates *Epidemiology*, Vol. 5, No. 1 (Jan., 1994), pp. 124-127

Fenclová Z, Pelclová D, Urban P, Navrátil T, Klusácková P, Lebedová J. Occupational Hypersensitivity Pneumonitis Reported to the Czech National Registry of Occupational Diseases in the Period 1992-2005. *Industrial Health*, 47, 2009, 443-448.

Golubic R, Milosevic M, Knezevic B, Mustajbegovic J. Work-related stress, education and work ability among hospital nurses. *J Adv Nurs*. 2009 Jul 22. [Epub ahead of print]

Hussey L, Turner S, Thorley K, McNamee R, Agius R. Work-related ill health in general practice, as reported to a UK-wide surveillance scheme. *Br J Gen Pract* 2008;58(554):637-640.

Jarvis J, Seed MJ, Elton R, Sawyer L, Agius R. Relationship between chemical structure and the occupational asthma hazard of low molecular weight organic compounds. *Occup Environ Med*. 2005 Apr;62(4):243-50.

Knezevic B, Milosevic M, Golubic R, Belosevic L, Russo A, Mustajbegovic J. Work-related stress and work ability among Croatian university hospital midwives. *Midwifery*. 2009 Jul 7. [Epub ahead of print]

Kuiper JI, Burdorf A, Frings-Dresen MH, Kuijer PP, Spreeuwers D, Lötters FJ, Miedema HS. Assessing the work-relatedness of nonspecific low-back pain. *Scand J Work Environ Health*. 2005 Jun;31(3):237-43.

Lenderink AF, Spreeuwers D, van der Klink JJ, van Dijk FJ. Information and feedback to improve occupational physicians' reporting of occupational diseases: a randomised controlled trial. *Int Arch Occup Environ Health*. 2009 Oct 15. [Epub ahead of print].

Lindbohm ML, Ylöstalo P, Sallmén M, Henriks-Eckerman ML, Nurminen T, Forss H, Taskinen H. Occupational exposure in dentistry and miscarriage. *Occup Environ Med*. 2007 Feb;64(2):127-33. Epub 2006 Oct 19.

McNamee R, Carder M, Chen Y, Agius R. Measurement of trends in incidence of work-related skin and respiratory diseases, UK 1996-2005. *OEM* 2008;65:808-814.

McNamee Roseanne, Chen Yiqun, Hussey Louise, Agius Raymond. Randomised Controlled Trial comparing time-sampled versus continuous time reporting for measuring incidence (*Epidemiology*, in press).

Merget R, Sander I, van Kampen V, Raulf-Heimsoth M, Ulmer HM, Kulzer R, Bruening T. Occupational

immediate-type asthma and rhinitis due to rhodium salts. *Am J Ind Med.* 2010 Jan;53(1):42-6.

O'Neill E, McNamee R, Agius R, Gittins M, Hussey L, Turner S. The validity and reliability of diagnoses of work-related mental ill-health. *OEM* 2008;65:726-731.

Pal TM, de Wilde NS, van Beurden MM, Coenraads PJ, Bruynzeel DP. Notification of occupational skin diseases by dermatologists in The Netherlands. *Occupational Medicine* 2009 59(1):38-43.

Pelclová D, Fenclová Z, Urban P. Asbestos exposure, legislation and diseases in the Czech Republic. *Cent Eur J Public Health.* 2007 Sep;15(3):99-102.

Perrotta C, Staines A, Cocco P. Multiple myeloma and farming. A systematic review of 30 years of research. Where next? *J Occup Med Toxicol.* 2008 Nov 17;3:27.

Riipinen A, Sallmén M, Taskinen H, Koskinen A, Lindbohm ML. Pregnancy outcomes among daycare employees in Finland. *Scand J Work Environ Health.* 2009 Dec 14. [Epub ahead of print]

Samant Y, Parker D, Wergeland E, Wannag A. The Norwegian Labour Inspectorate's Registry for Work-Related Diseases: data from 2006. *Int J Occup Environ Health.* 2008 Oct-Dec;14(4):272-9.

Seidler A, Becker N, Nieters A, Arhelger R, Mester B, Rossnagel K, Deeg E, Elsner G, Melis M, Sesler S, Avataneo G, Meloni M, Cocco P. Asbestos exposure and malignant lymphoma: a multicenter case-control study in Germany and Italy. *Int Arch Occup Environ Health.* 2009 Dec 25. [Epub ahead of print]

Smits PB, de Boer AG, Kuijter PP, Braam I, Spreeuwiers D, Lenderink AF, Verbeek JH, van Dijk FJ. The effectiveness of an educational programme on occupational disease reporting. *Occup Med (Lond).* 2008 Aug;58(5):373-5. Epub 2008 May 25.

Spreeuwiers D, de Boer AG, Verbeek JH, van Beurden MM, van Dijk FJ. Diagnosing and reporting of occupational diseases: a quality improvement study. *Occup Med (Lond).* 2008 Mar;58(2):115-21. Epub 2008 Jan 21.

Spreeuwiers D, de Boer AG, Verbeek JH, de Wilde NS, Braam I, Willemse Y, Pal TM, van Dijk FJ.. Sentinel surveillance of occupational diseases: a quality improvement project. *Am J Ind Med.* 2008 Nov;51(11):834-42.

Spreeuwiers D. Registries of occupational diseases and their use for preventive policy. Thesis University of Amsterdam, 2008.

Spreeuwiers D, de Boer AGEM, Verbeek JHAM, van der Laan G, Lenderink AF, Braam I, van Beurden MM, van Dijk FJH. Time trends and blind spots: What employers, employees and policymakers want to know about occupational diseases. *Policy and practice in health and safety* 2008; 6(1): 65-78.

Spreeuwens D, de Boer AGEM, Verbeek JHAM, van Dijk FJH. Characteristics of national registries for occupational diseases: international development and validation of an audit tool. BMC Health Serv Res. 2009 Oct 23;9:194.

Tomášková, H., Jiráček, Z., Šplíchalová, A., Urban, P. et al.: Lung Cancer Risk in Black-coal Miners with Pneumoconiosis in the Czech Republic. Epidemiology, 19, 2008, Suppl. 172-173.

Urban P, Cikrt M, Hejlek A, Lukás E, Pelclová D. The Czech National Registry of Occupational Diseases. Ten years of existence. Cent Eur J Public Health. 2000 Nov;8(4):210-2.

van der Molen HF, Hoonakker PL, Lehtola MM, Hsiao H, Haslam RA, Hale AR, Verbeek JH. Writing a Cochrane systematic review on preventive interventions to improve safety: the case of the construction industry. Med Lav. 2009 Jul-Aug;100(4):258-67. Review.

van der Molen HF, Sluiter JK, Frings-Dresen MH. The use of ergonomic measures and musculoskeletal complaints among carpenters and pavers in a 4.5-year follow-up study. Ergonomics. 2009 Aug;52(8):954-63.

Van Kampen V, Merget R, Butz M, Taeger D, Brüning T. Trends in suspected and recognized occupational respiratory diseases in Germany between 1970 and 2005. Am J Ind Med. 2008] Jul;51(7):492-502.

Verbeek J. The economic dimension of occupational health and safety. Scand J Work Environ Health. 2009 Nov;35(6):401-2. Epub 2009 Oct 1.

Verbeek J, Pulliainen M, Kankaanpää E. A systematic review of occupational safety and health business cases. Scand J Work Environ Health. 2009 Nov;35(6):403-12. Epub 2009 Oct 1. Review.