

## Detection Systems of Occupational Diseases in Primary Care in Spain

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### Abstract

**Background:** The underreporting of work-related illnesses is a recognized problem worldwide because there are also difficulties in recognizing and reporting them. Specific detection systems could be a good option to obtain data about occupational diseases and improving their approach.

**Objective:** To analyze the different detection systems of occupational diseases in primary care in Spain.

**Methods:** A literature search of the databases PubMed, CINAHL and Cochrane and official information systems from 2007 to the end of 2015 was conducted to select the studies related to the identification of occupational diseases in primary care.

**Results:** Studies about primary care and occupational diseases in our country are limited. Detection systems of occupational diseases in primary care in Spain are still insufficient and there are important differences between different Autonomous Communities.

**Conclusions:** Communication between primary care physicians and the managing entity for work-related health must improve through effective systems for appropriate notification and treatment of occupational diseases.

**Keywords:** Occupational diseases; Primary care; Detection systems; Autonomous communities; Spain

### Introduction

Work may be cause of disease is as it is known since ancient times [1]. Within the legislative framework on occupational diseases, the article 18.9 of the General Health Law establishes in Spain "the protection, promotion and improvement of occupational health" through National Health System [2]. Prevention Risk Law has a fundamental objective, the elimination or reduction of risks arising from work and, therefore, the protection of the workers' health [3].

Two kinds of diseases can be distinguished: occupational diseases and work-related diseases.

In Spain, the occupational disease is defined in Article 116 of the Consolidated Text of the General Social Security Law as "that contracted as a result of work performed by others in the activities specified in the table to be approved by the implementing rules and development of this Law, and which is caused by the action of the elements or substances in this table that are indicated for each occupational disease" and which are contained in an official list closed set in Royal Decree 1299/2006. The work-related diseases that are not included in the official list but that can reasonably be associated with an exposure or an occupational hazard [4,5].

1299/2006 Royal Decree updating and repealing 1995/1978 Royal Decree, with the revision of the list of occupational diseases, establishes the correct mode declaration and study of these pathologies [6] in the National Health System (NHS).

The underreporting of work-related illnesses is a recognized problem worldwide, as though more than half of the countries do not provide adequate statistics of occupational diseases [7,8].

An example of the importance of these this known problem is the celebration of the World Day for Safety and Health at Work 2013, focused on the prevention of occupational diseases. In addition, the latest estimates estimation from the International Labour Organization indicates that more than 2 million deaths are due to various types of work-related diseases [9].

In 2011, the VII National Working Conditions Survey revealed that more than half of workers claimed to have health problems related to work, among which musculoskeletal were the most prevalent, especially in those over 45 years [10].

In the case of work-related cancer, which is especially important due to its severity and the associated high health care costs, the data are even more alarming. Only 15 were reported in 2007 and in 2012 solely 77 cases were diagnosed as work-related cancer in Spain [11], while tumor incidence was estimated over 200,000 cases in this year [12]. In a similar way, diseases with long latency difficult their recognition as implicated work-related factors can influence their development before

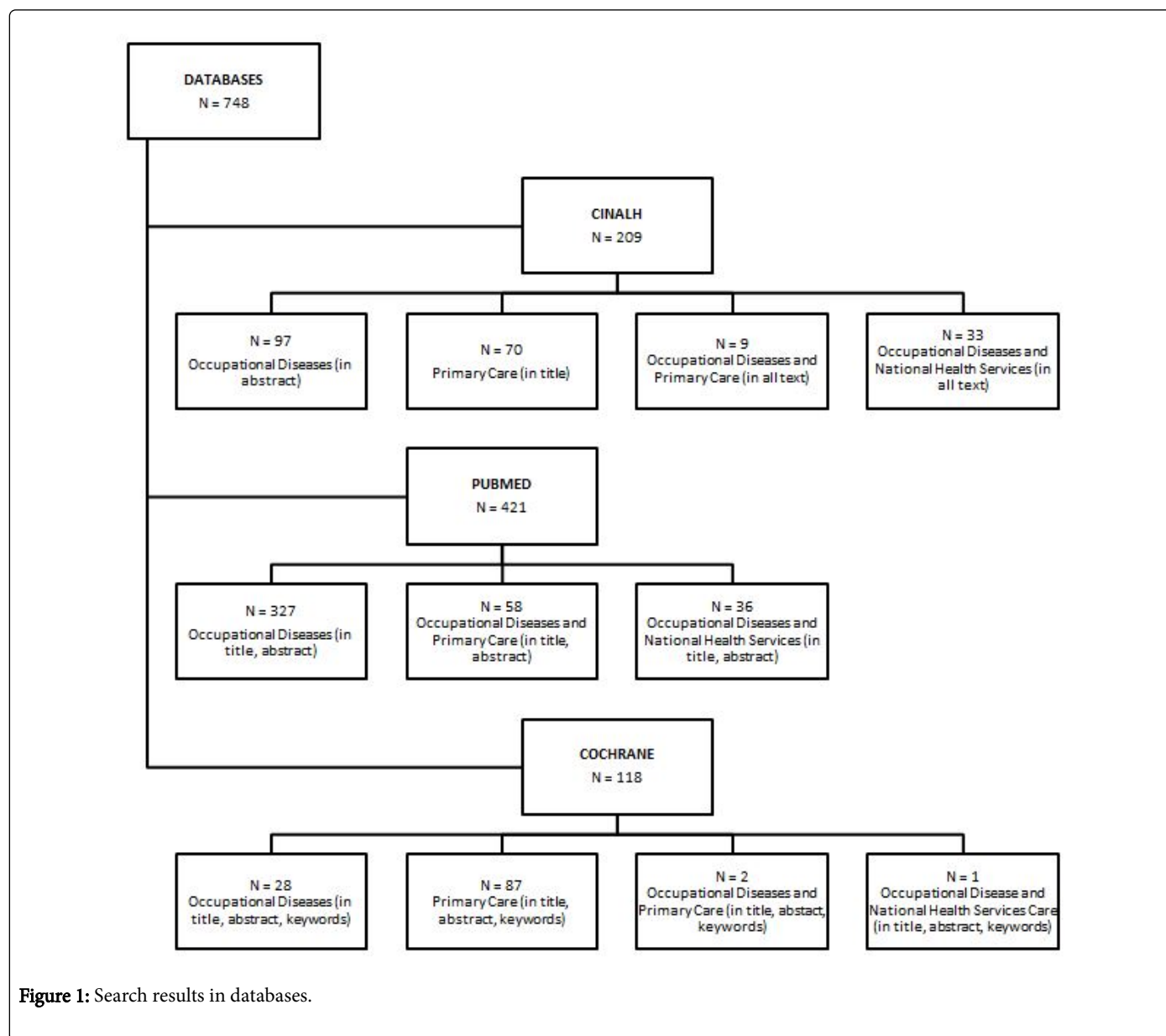
clinically relevant symptoms manifestation. In addition, because of the economic crisis and migration, workers can change jobs several times throughout his life and this make more difficult the determination of an occupational origin of the disease [13].

In Europe, one of the most remarkable register of occupational diseases is Finland [14,15]. In Spain, as competences on Health are conveyed to Regional Government, there is sort of national planning that develops the current legal framework. Spain is divided into 17 regions called Autonomous Communities, each of them with a Regional Government that is responsible for the competences conveyed. As a first step to propose improvement measures in the declaration of occupational diseases in Primary Care Health System, the objectives of this paper are to describe the general Health System organization for occupational diseases and to analyze the different diseases detection systems set up on the different autonomous communities in Spain.

## Methods

During the months of October to December 2015 literature search was conducted in the online databases of PubMed, CINAHL, and Cochrane to locate published linking occupational diseases and primary care in Spain work. The search was limited from 2007 to late 2015.

The descriptors used were "Occupational diseases" "Primary Care" and "National Health System" To refine the search combinations was made between "Occupational diseases" and "Primary Care" and between "Occupational diseases" and "National Health System" and search for the titles, abstracts and keywords were progressive filtered when a very high amount of articles was obtained. The results of this first search are reflected in Figure 1.



The titles of the items found were revised selecting those that were directly related to the purpose of the search and discarded those that did not include specific information of Spanish territory.

The information available on the website of the Ministry of Health was also consulted in order to know why Autonomous Communities have systems of notification of occupational diseases in primary care.

In addition to this information about diseases reported to the Social Security and non-traumatic diseases caused by work, was obtained by CEPROSS applications (Communication of Occupational Diseases in the Social Security) and PANOTRATSS (Communication of Non-traumatic Diseases Caused by Work) through the electronic portal of the Social Security.

The data obtained were analyzed individually and then grouped by regions, in order to extract the highlights.

## Results

The NHS serves the common diseases and accidents, is funded by the State budget and managed by the Autonomous Communities. However, accidents, occupational diseases and other forms of illness derived from work are considered as an occupational contingency. They must be necessarily met by the employer and managed through concerted and specialized institutions, which are Work Accidents and Occupational Diseases Insurance Institutes. These attentions covering certain schemes of Social Security System, must be provided exclusively by the employer. The Social Security System has a collecting function in this case [16]. In Spain, the most remarkable register of occupational diseases is the Occupational Health Institute of Navarra

[17]. As in others countries, in Spain the responsibility in safety and work health is divided between different administrations, which makes more difficult the collection of data.

The General Administration, the Administration of the Autonomous Communities and Local Government entities should cooperate to improve their job on security and work health. Table 1 summarizes the authorities related to work health and their activities linked to occupational diseases.

Nevertheless, some studies report that only a quarter of all occupational diseases are recognized as such in Spain [18]. For example, according to a study conducted in 2006 found about 2 million of workers suffering any disease or health problem related to work, the most common being musculoskeletal and psychological disorders [19,20]. In 2007, after the publication of the new list of occupational diseases in 2006, 17.061 occupational diseases were reported, according to the Employment and Social Security Secretary [21].

Studies suggest that two -out of- three occupational diseases are treated in health centers and hospitals in the public network rather than by a mutual or authorized entity [18-22]. This implies duplication in care of workers who, in some cases, are treated in both systems.

The focus of occupational diseases or occupational origin by the National Health System, besides not complying with what is legally established, is an additional cost and causes a loss of information on the actual number of occupational diseases limiting, partly correction in prevention. Significantly, the study in the Basque Country in 2008, estimated that the cost involved in care work pathologies derived from primary care was more than 106 million euros [23].

Institutional Organization	Activity Related to Occupational Diseases
National Institute of Safety and Health at Work	- Analyze and investigate the causes of work-related accidents and occupational diseases, proposing corrective actions.
Inspection of Labour and social Security	- Inform the Labour authority on Accidents at work (fatal, serious and severe), occupational disease...
	- Prepare reports for the courts to demands that occur Accidents and Occupational Diseases
National Commission on Safety and Health at Work	- Coordination between the Institutional Organizations
National Institute of Medicine and Safety	- Research on methods of identification and prevention of accidents and occupational diseases and the effect of the working conditions on health.
National School of Occupational Medicine	- Specific training courses for health professionals
National Institute of Silicosis	- Prevention and care of cardiorespiratory diseases.

**Table 1:** Main activities of Institutional Organizations.

The literature search to find articles where primary care was related to occupational disease yielded few results. Studies were only found in the Community of Navarra, Catalonia and the Basque Country. Of all the articles reviewed, only four made reference to care-related occupational diseases in the public health system in our country [17, 22-24].

Moreover, according to information provided by the CEPROSS and PANOTRATSS applications, in 2014 there were a total of 22.949 diseases caused by work, 17.260 cases of occupational diseases and

5.689 cases of no traumatic diseases caused or aggravated by work [25].

Indicators of Occupational Health Ministry of Health website, show that six of the 17 Spanish Autonomous Communities (Aragón, Castilla la Mancha, Castilla y León, Extremadura and Madrid) do not yet have any specific program for detecting diseases caused or aggravated by work. In other communities there is no available information [26].

In Valencia the labor surveillance system implemented, called SISVEL, aims to improve the information on early detection of

occupational diseases and work-related diseases that are treated in the public health system [27].

In Basque Country, another community that has programs for labor information systems, a study was conducted to between 2009 and 2011 on reporting of suspected occupational disease. It highlighted that it is the Basque Public Health Service, where most communications of suspected occupational cancer are reported [24].

The most important published studies regarding these experiences are focused in Catalonia and Navarre, as previously mentioned. In Catalonia recent study has identified 26 possible work-related diseases taken care by the public health system, and associated with occupational risk factors [18]. Navarre was the pioneer through the Epidemiological Surveillance Program in Occupational Health implemented since 1998. In the period 1998 -2007 this system reported a total of 2055 cases of occupational diseases seen by the public system, 1192 elbow tendinitis, carpal tunnel alterations 360, 86 and 417 asthmas occupational dermatitis. The main conclusion of the evaluation of the program indicates that a good experience for the detection and good coordination is essential [17].

In this region there is a close collaboration between the Navarro Institute of Occupational Health and Primary Care Directorate, plus Navarre also features a Program Occupational Health Units, whose main objective is to train professionals Primary Health Care Labour and Research Program Occupational Diseases to know the causes and propose preventive measures. As shown in the development of such strategies in the Plan II Occupational Health NAVARRE 2007-2012: its goal number 2 is "Minimize underreporting of occupational diseases" Navarre ranks first in disease reporting professionals and their incidence rate exceeded by more than 6 times the state [28].

## Discussion

In our country, different systems have been established between the different Autonomous Communities, although their implementation is heterogeneous and incomplete.

It was not easy to find information about the implementation of systems for detecting diseases in our environment. The works published so far are scarce and limited to concrete experiences.

Concerning to occupational cancer and taking into account the assessments of the International Chemicals Agency for Research on Cancer (IARC), 150 physical or chemical carcinogens are present in the workplace, so most researchers believe that the percentage of work-related cancer is much higher than the recorded [29]. Moreover, the information available on the website of the Ministry of Health is may not be fully updated and must be analyzed with due care. Still, it remains striking the difference between different communities in which there are fully developed and implemented systems and other systems where these do not exist or have not materialized into tangible experiences.

The experience gained by those communities with more experience, as Navarre, could be extrapolated to other communities when implementing similar systems taking into account the specifics of each Community [28].

Professionals working at NHS Primary Care Health Centers cannot often distinguish between common and occupational diseases, as expertise is needed in order to diagnose these diseases.

In many cases, workers attend first to the Primary Care Health Centers when they should go to the Work Accidents and Occupational Diseases Insurance Institutes.

The complexity of this system requires the implementation of mechanisms to avoid a diagnostic and treatment duplication and its fraudulent use.

Some experts have argued that the measure for the adequate notification of occupational diseases would be proper coordination between Primary Care Health Centers and Work Accidents and Occupational Diseases Insurance Institutes [18-22].

It would be desirable to establish a common system for the entire Spanish territory to facilitate comparison of data and improve both prevention and awareness of occupational diseases, which is complex considering the idiosyncrasies of each community. If all Autonomous Communities had a system for early detection of work-related diseases, costs would be saved to the system and economic benefits could be provided in case of temporary disability. The most important benefits for the worker would be the following: the right to change position, broader observation period of the disease, gratuity in medications, higher compensation for death and permanent non-incapacitating injuries, and the possibility of starting a record fee of benefits and compensation for damages.

The characteristics of the systems between different Autonomous Communities are different and so far there are not enough publications to the assessment of results. Therefore, it is essential to correctly identify the occupational disease and this article emphasizes that proper coordination between Primary Care Health Centers and Work Accidents and Occupational Diseases Insurance Institutes is an effective measure for correct reporting of occupational diseases. To achieve this objective, main suggestions aimed at improving reporting of occupational diseases from Primary Health Care in Spain are to:

-Improve qualification and information in Community Doctors about occupational diseases and their management.

-Add a tag to the clinical history indicating the patient's occupation.

-Make a list with the most common occupational diseases, and make it widely available.

-Increase communication between Occupational Health services and the Primary Care system.

-Develop a unified system to report and manage occupational diseases, effective for the whole country.

## Summary

1. There is underreporting of occupational diseases in Spain.
2. Occupational diseases usually receive an inadequate treatment in primary care.
3. Proper registration of occupational diseases is required in all regions of Spain.

## Conflict of Interest

All authors have not any financial or proprietary interest in the materials presented.

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