

## ORIGINAL ARTICLE

# Disability Management: the application of preventive measures, health promotion and case management in Italy

G. LA TORRE, M. DE GIUSTI\*, A. MANNOCCI, C. DE WAURE, A. AGOSTINELLI, S. SCHENA\*\*, G. CAPELLI\*\*\*, W. RICCIARDI, A. BOCCIA\* AND DISABILITY MANAGEMENT ITALIAN COLLABORATION GROUP  
 Institute of Hygiene, Catholic University of the Sacred Heart, Rome; \*Chair of Hygiene, University of Rome "Sapienza", Rome; \*\*Institute Opera Don Calabria, Verona; \*\*\*Chair of Hygiene, University of Cassino, Cassino, Italy. Disability Management Italian Collaboration Group: G. Damiani, M. von Pinoci, C. Fanton\*\*, B. Federico\*\*\*

## Key words

Disability management • Italy

## Summary

**Background.** Disability Management can be defined as a practice to improve workers' health and to reduce the impact and costs of disability. The aim of the study was to estimate the diffusion of DM in Italian companies.

**Methods.** A survey was conducted using a questionnaire, the Worksite Disability Management Audit. The questionnaire was structured into five parts addressing the following domains: 1) characteristics of the company; 2) health promotion activities; 3) preventive measures; 4) case management; 5) disability management. We selected public and private companies and collected information by direct interview.

**Results.** Twenty companies entered the survey. Twelve Companies (60%) indicated that health promotion programs and sensibilisation campaigns are usually carried out. The presence of an individual who provided workplace safety indications

and materials was stated by 19 companies (95%). Periodical medical examinations are carried out by 19 companies (95%); 16 (80%) have an evaluation process for ergonomics concerns. Risk assessment and analysis are performed by all companies and the security procedures and policies are updated at least once in a year in 40% of cases. Health status monitoring of injured workers is performed in eight (40%) of the companies, while Disability Management is present as a whole in only three companies.

**Conclusions.** This survey highlights that Disability Management is not undertaken in most companies and that, where applied, there is still confusion and disorganization about ways to promote health and manage workers' illness and disability. Hence, there is still the need to promote an all-inclusive evaluation and management of workers' safety, illness and disabilities.

## Introduction

### BACKGROUND

Disability can be considered as the reduction or the lack of ability to work, as a consequence of aging, illness or injuries [1].

In Italy, in 2005, over 900,000 work-related injuries occurred, mainly in the industrial sector, while 1206 work-related deaths were reported [2]. In the same year, permanent inability to work caused by work injuries and illnesses amounted to over 20,000 and over 2000 respectively [3].

Disability determines both high financial and human costs for companies. Expenditure for controlling work injuries and illnesses is rising, especially due to the workforce's aging and the growing spreading of psychological problems.

Disability Management in the workplaces is an increasingly used measure to improve productivity and reduce costs [4] by promoting health and getting the worker back to work in a safe manner at the earliest time. It aims to not only to manage health-related absenteeism but also to minimise the impact of work-related

conditions such as lower back pain and psychological concerns. Disability Management can also be applied to the problem of aging out and of preseeentism that is the reduction of workers' productivity belonging to health-related factors or psychological-relational problems.

Disability Management can be defined as the practice of providing preventive and remedial measures to improve workers' health and to reduce the impact and the costs of disability; it is a process to minimize injuries and disability impacts on work ability [5] and to guarantee to workers a high quality of care [6].

Three basic actions have to be realized in Disability Management: prevention, communication and work-return planning. They are addressed in four steps: the first two concern preventive medicine (health promotion and preventive measures), while the last ones regard organisational issues and involve early interventions and case management [7, 8].

Health promotion could be achieved with social activities, health campaigns and organisation of events and conferences concerning health matters, as described by Hall [8].

Preventive measures deal with ergonomics, safety, wellness, positive work practices and employees assistance

programs (EAP). In this context safety and ergonomics play an important role and this is demonstrated by the development of guidelines on workplace ergonomics in order to reduce work-related illness [5].

Early interventions are set up on transitive opportunities, psychological backing programs, follow-up and ergonomic activities.

The last step, case management, includes activities such as the identification of cases and evaluation, the procedures planning and the final assessment that allow early and optimal return to work. A case manager can be defined as the coordinator of a worksite's response to injury and disability through development and implementation of rehabilitation plans and work return/transition programs [9].

Professionals interested in Disability Management are company employers and managers, insurers, resource managers, trade unionists, medical and par-medical personnel, as well as lawyers. Disability Management requires a strong partnership between employers, workers, unions and health care providers and it could be of use to each one of these. In fact, while facilitating the return to work by an early contact and re-introduction of workers, Disability Management can benefit to employers and health care providers by reducing costs. Disability Management has already been developed in United States, Canada and some Europe countries

(Netherlands, Germany, Ireland and United Kingdom) where the experience of most companies has been a reduction of direct and indirect costs associated with worksites injuries and illnesses. Employers consider Disability Management as an integral part of the workplace's human resources development strategies and a priority task which contributes to business success [10]. In Italy, Disability Management was introduced at the end of the 1990s, especially in the Northern Regions. The aims of our study were as follows:

- to estimate the diffusion in Italy of Disability Management, as a whole and of single parts;
- to investigate which are the barriers to the spread of Disability Management in Italian Companies.

## Methods

### THE QUESTIONNAIRE

A survey was conducted using a structured questionnaire designed and piloted and we decided to prevent missing data to administer like an interview. A questionnaire, the Worksite Disability Management Audit, was used to study the presence of Disability Management requirements and diffusion in Italian companies.

Fig. 1. First two pages of first section of questionnaire: "Description of company".

<b>Project: "Disability Management: preventive measures, early interventions, case management"</b> Institute of Hygiene, Catholic University of the Sacred Heart, Director Prof. G. Ricciardi		<b>1.5 Activity of the Company</b> <b>a. Specific sector of the Company (objective of the Audit): (max 1 answer)</b> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> (specify) ..... Tertiary <input type="checkbox"/> (specify) .....	
<b>Audit tool</b> Nickname of the interviewer ..... Code number ..... Date: ..... Place (City or Province): ..... Professional job of the interviewed ..... Educational level ..... Gender Male Female Year of birth .....		<b>b. specify the main activity of the Company</b> .....  <b>1.6 Localisation</b> <b>a. The place of the Company is located in an area: (max 1 answer)</b> Rural <input type="checkbox"/> Urban <input type="checkbox"/> ..... Industrial <input type="checkbox"/> (if so indicate the number of inhabitants) other (specify) .....	
<b>Part 1. DESCRIPTION OF THE COMPANY</b>			
<b>1.1 Name of the Company referent</b> (specify the professional job) .....		<b>b. Company framework: (max 1 answer)</b> Single place <input type="checkbox"/> Decentralized places <input type="checkbox"/> (in the same area/city) Decentralized places <input type="checkbox"/> (indicate the number of places) (other than main place) ..... (indicate the number of places)	
<b>1.2 What company's department did commission the Audit?</b> .....		<b>1.7 Size of the Company</b> <b>a. How many people are employed in a continuous manner in the Company? (max 1 answer)</b> ≤ 15 <input type="checkbox"/> 16-50 <input type="checkbox"/> 51-100 <input type="checkbox"/> 101-399 <input type="checkbox"/> 400-699 <input type="checkbox"/> 700-1000 <input type="checkbox"/> > 1000 <input type="checkbox"/>	
<b>1.3 Name of the Company</b> .....			
<b>1.4 Origins of the Company</b> <b>a. Type of Company (max 1 answer)</b> National <input type="checkbox"/> Multinational <input type="checkbox"/>  <b>b. Type of entity</b> Public <input type="checkbox"/> Private <input type="checkbox"/> Other (specify) .....			

Fig. 2. First two pages of second section of questionnaire: "Health promotion activities".

**PART 2**

**A. Wellness Promotion**

**2.1 a.** Does a health promotion and wellness programme for employees exist?  
 Yes ☐  
 No ☐  
 Don't know ☐

**b.** (specify) .....

**c.** If yes, has it been already implemented?  
 Yes ☐  
 No ☐

**2.2 a.** Were surveys on the interest of employees carried out with the aim of promoting health and wellness programs in the Company?  
 Yes ☐  
 No ☐  
 Don't know ☐  
 Other (specify) .....

**b.** (specify) .....

**2.3 a.** Are there meetings directly organized by the Company?  
 Yes ☐  
 No ☐  
 Don't know ☐

**b.** If Yes, who is in charge of sanction...  
 Sport (tournaments, other) ☐  
 Culture (theatre, cinema, concerts, exhibitions, museums) ☐  
 Free time (Parties, journeys) ☐  
 Other (specify) .....

**c.** If No, why (example: for lack of funding, of time, distance) (specify) .....

**2.4 a.** Within the Company are there recreational areas?  
 Yes ☐  
 No ☐

**b.** Which ones?.....

**2.5 a.** Have there been sensibilisation campaigns implemented on health related issues?  
 Yes ☐  
 No ☐  
 Don't know ☐

**b.** If Yes, how many in the last calendar year? .....

**c.** Who was the organizer? (specify the professional job and the collaborations) .....

**d.** Which campaigns have been implemented? .....

**e.** In which manner? (example: distribution of written material) .....

**2.6 a.** Does the Company promote healthy lifestyles?  
 Yes ☐  
 No ☐  
 Don't know ☐

**b.** If Yes, what? .....

**c.** If Yes, with which modality? .....

**2.7 a.** Does the Company respect the smoking ban legislation?  
 Yes ☐  
 No ☐  
 Don't know ☐

The interview was structured into five parts concerning the following domains:

- 1) characteristics of the Company (Fig. 1);
- 2) health promotion activities (Fig. 2);
- 3) preventive measures (Fig. 3);
- 4) case management (Fig. 4);
- 5) disability management (Fig. 5).

The second part had the aim of collecting information about the presence of recreative places and health promotion campaign and of investigating how they were realized.

The third part concerned with the workplaces ergonomics, safety evaluation and health status surveillance.

The fourth part aimed at determining whether a company gets case management by collecting information mainly on return to work programs.

The fifth part regarded Disability Management itself and investigated a disability manager profile and programs; it was compiled only by companies that already had structured Disability Management in place.

A pilot survey was conducted and subsequently computed Cronbach's alpha using SPSS Software in order to test the reliability of the questionnaire. The internal consistency, concerning the correlation among items comprising the scale, was tested by means of Cronbach's

alpha coefficient, which summarized the iter item correlations of all items in a scale. Coefficients greater than 0.70 can be considered satisfactory [11].

#### THE SETTING

Public and private companies, belonging to different sectors in four Italian Regions, representing the North (Veneto), the Centre (Lazio, Marche) and the South (Campania), were selected.

An appointment was arranged with the company, after a brief explanation of the study's aim.

The information was collected by trained personnel through direct interview to different company members mainly Company Director, the Head of Safety, the Head of Personnel, and/or the Administrative Director. For each company a request was made in order to meet the above members one at a time. The interviews were completed between mid-December 2004 and the end of October 2005.

#### STATISTICAL ANALYSIS

All the data were collected in a relational database (Db IV) and subsequently analysed with statistical package, SPSS (release 12.0 for Windows™). We computed

Fig. 3. First two pages of third section of questionnaire: "Preventive measures".

**PART 3**

**B. PREVENTIVE MEASURES**

**Health and safety policy and monitoring**

3.1 a. Is there a specific employee that gives indications about workplace safety?

Yes ☐ No ☐ Don't know ☐ b. (specify) .....

c. If Yes, how are they given? (multiple answers are allowed)

c.1 with leaflet on instruments and environment ☐

c.2 with promoting meetings ☐

c.3 with signals that specify what to do and in which situation ☐

c.4 with training courses ☐

c.5 other (specify) .....

**Ergonomics Assessment**

3.2 a. Is the ergonomics of the workplace formally assessed?

Yes ☐ No ☐ Don't know ☐

b. If Yes, the assessment is:

Internal ☐ c. (specify) .....

External ☐

d. If Yes, in what period the ergonomics needs are implemented?

Never ☐

Within 3 months ☐

More than 3 months ☐

Within 1 year ☐

**Health Screening**

3.3 At the beginning of work activity does each employee undergo to a preventative medical visit?

Yes ☐ No ☐ Other (specify the typology of worker that has the right to be visited) .....

3.4 a. Do the workers undergo to periodical medical visits in order to monitor their health status?

Yes ☐ No ☐ Don't know ☐

b. If Yes, how often?

Within 6 months ☐

Within 1 year ☐

Other (specify) .....

**Risk management**

3.5 Are there workplace risk assessment plans?

Yes ☐ No ☐ Don't know ☐

3.6 a. Is there a risk assessment of each risk associated to the work of employees?

Yes ☐ No ☐ Don't know ☐

b. If Yes, which is the office that faces with this issue? .....

a descriptive analysis of data, using percentages and frequencies. We studied the missing data respect to the Company sector and size.

## Results

Twenty-three companies were approached to take part in the study and 20 took part (response rate: 87%). In Table I the characteristics of the participating companies are shown.

Seven companies were multinationals (35%) and 13 national (65%). Out of 20, 16 (80%) were private. Eleven (55%) have their activity in secondary field while 9 (45%) in tertiary field. Companies' activities were very heterogeneous involving the following productions:

- food production;
- chemical;
- metal and mechanic firms;
- real estate;
- producing;
- banking.

Companies' referents had a mean age of 43.7 (standard deviation = 11.3) and were represented by females in 3 cases (15%). In relation to educational degrees, 13 ref-

erents (65%) were graduates, while 6 (30%) had a high school certificate. Six (30%) of the responders were Administrative Directors, five (25%) were Head of safety and four (20%) were the Head of Personnel.

## HEALTH PROMOTION

Health promotion programs and sensibilisation campaigns, coordinated by communication and organization offices or Company medical-doctors, were usually performed in 12 (60%) Companies. Topics mainly faced with were smoking cessation, alcohol abuse prevention, vaccine and workplace emergency.

In 19 (95%) companies the no-smoking rule was respected, while alcoholic drink use during the working time was prohibited in 14 (70%), even if alcohol testing was not in place. Possibilities of subordinates joining together were present in 16 (80%) of cases and sport structures (inside or outside) were present in 7 (35%) of the companies. The availability of a catering service was indicated by 6 (30%) enterprises but customised diets were catered for in only half of them.

## PREVENTIVE MEASURES

The presence of a person who supplies workplace safety indications and materials was reported by 19 (95%) re-



Fig. 4. First two pages of fourth section of questionnaire: "Case management".

Part 4  
C. EARLY INTERVENTIONS- CASE MANAGEMENT

**Workplace Accident/illness management**

**4.1** Is there a first aid service on the workplace?

Yes ☐  
No ☐  
Don't know ☐

**4.2** Is there a standard procedure that indicates the behaviours to be taken in case of work accident?

Yes ☐  
No ☐  
Don't know ☐

**4.3 a.** Is there a monitoring of health management of the injured worker?

Yes ☐  
No ☐  
Don't know ☐

**b.** If Yes, who is the monitor? .....

**Contact with the employee in the first days of absence**

**4.4 a.** Is there a formal contact (by telephone, e-mail) with the employee absent for an illness?

Yes, only on the first day ☐  
Yes, periodically ☐  
No ☐  
Don't know ☐

**b. (specify)** .....

**c.** If Yes, what is the message given in this communication? (examples: we are awaiting for you, how do you feel? We are looking for a solution for letting your return easier) .....

**4.5 a.** Is the worker encouraged to communicate the progress of his/her health situation to the Company?

Yes ☐  
No ☐  
Don't know ☐

**b. (specify with whom)** .....

sponders. Information tools were: book/brochure (75%), meetings (85%), signals (80%) and courses (85%). Periodic medical visits were performed by 19 (95%) companies, while 14 (70%) subjected workers to an examination at the beginning of their employment. In 16 (80%) companies there was an evaluation process of ergonomics, but the frequency of ergonomic evaluations ranges from 6 months to once a year. Risk assessment and analysis were carried out by all of the companies, with a designated person in charge of this in 11 (55%) cases. The safety procedures and policies were updated at least once in a year in 8 (40%) cases. Companies' security rules were documented in 15

(83,3%) of the companies and infractions were foreseen in 15 (78,9%) of them.

Ten Companies out of 19 (52%) stated that they had health promotion and healthy lifestyle programmes in place, with the main activities including: 36% smoking; 29% alcohol consumption; as well as obesity, diet, physical activity and aids (3%).

Missing data was observed in four different companies mainly in secondary and tertiary fields (Tab. I).

#### CASE MANAGEMENT

Seventeen Companies (85%) had a first aid standard procedure in case of work injury. Health status monito-

Tab. I. Characteristics of the participating companies (N = 20).

Characteristic of the Companies	Absolute Frequency	Percentage (%)
Multinational	7	35%
National	13	65%
Private	16	80%
Public	3	15%
Not reported	1	5%
Secondary Sector	11	55%
Tertiary Sector	9	45%
Industrial location	11	55%
Rural location	2	10%
Urban location	7	35%
One corporate headquarters	7	35%
More corporate headquarters (in different areas)	11	55%
More corporate headquarters (in the same area)	2	10%

Fig. 5. First two pages of fifth section of questionnaire: "Disability management".

**Part 5**  
**Disability Management Form**

Disability management (DM) is a strategy of prevention and remedy at the workplace with the aim of preventing the occurrence of disability or, in lack of this, of intervening at the earliest stage to reduce the impact of the disability, using a coordinated rehabilitation service of high quality, with an organisation oriented to allow working those who have functional limitations.

In other terms, DM is an active process of the impact minimisation of an accident, disability or illness on the ability of a worker to work successfully. The final DM aim is to get the maintenance of the work, or to optimise return to work, for those who already suffered from a disability.

**5.1** In your company is there the DM process?

Yes ☐  
No ☐  
I don't know ☐

In case of negative answer (No, I don't know) the questionnaire is over

Comments about the issues covered in the interview

.....

**5.2.** The DM programs are offered:

From service outside the Company ☐  
Auto-developed ☐  
Other (Specify) .....

**5.3.** The DM programs are certified by DM specialists with appropriate training?

Yes ☐  
No ☐  
I don't know ☐

**5.4 a.** Does the Company offer care programs to employees for giving help to workers with personal, familial or health problems?

Yes ☐  
No ☐  
I don't know ☐

**b.** If yes, which personnel is involved?

☐ b.1 supervisor of care programs  
☐ b.2 physiotherapist  
☐ b.3. trade union representative  
☐ b.4 head of personnel  
☐ b.5. responsible of the office of Human resources management  
☐ b.6 safety representative  
☐ b.7 responsible of the service of Work medicine  
☐ b.8 work physician  
☐ b.9 competent physician  
☐ b.10 ergonomics responsible  
☐ b.11 manager of return to work  
☐ b.12 disability manager  
☐ b.13 responsible of care programs

ring of injured workers was declared to happen in only 8 (40%) enterprises.

Fourteen companies (73,7%) had no formal return to work program. Nevertheless, returning to work on light duties was allowed in 7 (35%) companies; 7 (35%) adopted a graded work exposure, 2 (10%) a work trial and 2 (10%) supported employment. Ergonomic evaluation was not a part of the return to work program in 13 (65%) companies. There were not benefits in order to promote the early return to work in 16 (80%) cases.

An internal person managing employees' return to work was not present in 16 (84,2%) companies and, where it was contemplated, he/she was an external consultant. Direct health care, diagnosis and therapy were offered by 2 (10%) companies, although not in a structured manner.

Missing data was observed in one case, a tertiary field company (Tab. II).

#### DISABILITY MANAGEMENT

Three enterprises (15%) reported a structured Disability Management program (Tab. II). All of them were national companies but two worked in the tertiary sector and the other in the secondary; moreover two of the three companies were located in an urban area and one in the industrial area. As expected, all three companies

provided health promotion programmes and respected the smoking ban.

#### Discussion

This paper is an observational study and it's an early experience of disability management in Italy. The present survey has some limitations. First of all the limited number of companies chosen: this was justified by our intention to perform a preliminary study and by the availability of a list of companies interested in participating. This survey was performed using a questionnaire and we can not exclude misclassification bias; however, the questions were made by trained interviewers that shared common ways of administering the questionnaire. Moreover, due to the fact we conducted a pilot study before the beginning of the survey, the completeness of questions covering all the aspects of Disability Management approach could have been lacking.

This study highlights that Disability Management is not performed in most companies and that, where it is applied, there is still confusion and disorganisation about the modes to promote health and manage workers' illness and disability.

In terms of health promotion, we can assert that a small number of companies carry out health education

**Tab. II.** Disability Management items of the participating companies (n = 20).

	Yes (%)	No (%)
Health promotion activities		
Health promotion programmes	12 (60)	8 (40)
Recreation areas	9 (45)	11 (55)
Promotion of healthy lifestyles	14 (70)	6 (30)
Smoke ban observation	19 (95)	1 (5)
Alcohol consumption ban	14 (70)	6 (30)
Preventive measures		
Dedicated figure who gives information about workplace security	19 (95)	1 (5)
Ergonomic evaluation (n = 19) <sup>b</sup>	16 (84.2)	3 (15.8)
Periodical medical visits	19 (95)	1 (5)
Risks analysis	20 (100)	0 (0)
Security advertisements in workplace (n = 18) <sup>a</sup>	15 (83.3)	3 (16.7)
Sanctions of law infractions(n = 19) <sup>b</sup>	15 (78.9)	4 (21.1)
Case management		
First aid standard procedure in case of work accident	17 (85)	3 (15)
Monitoring of injured workers	8 (40)	12 (60)
Formal return to work program (n = 19) <sup>b</sup>	5 (26.3)	14 (73.7)
Manager of work return	3 (15.8)	16 (84.2)
Disability management (n = 3)		
DM program offered by third party	2 (66.7)	1 (33.3)
Certificated program	2 (66.7)	1 (33.3)

Missing included in secondary (a) and tertiary filed (b).

campaigns; moreover a small number of companies provide fast-food services and allow workers to have a customised diet. This is an important limitation and a missing opportunity to promote healthy food consumption campaigns [9]. The success of a Disability Management program leans strongly on injury prevention and safety initiatives; while health promotion and wellness programs focus more on worker's disability prevention or minimisation [9]. Health promotion initiatives could teach employees to eat in a healthy way, practice physical activity, adopt preventive health strategies and avoid or change behaviours that increase the risk of diseases. In this context, we ascertain that smoking prohibition is observed in almost all Companies.

Beyond direct costs, poor health determine high indirect costs associated with absenteeism and presenteeism; a meta-review of studies on worksite health promotion programs showed, on average, a 28% reduction in sick leave absenteeism, a 26% reduction in health costs, and a 30% reduction in workers' compensation and disability management claims costs [10].

Regarding preventive measures, it was detected that literature on workplace-related illness and diseases is available in many corporations, even though a only a few of them practice risk assessment and update their safety procedures frequently. Moreover, ergonomic assessment is still not always a part of management of the worker's illness.

Case management is not practised in most companies. Health monitoring of injured workers is not currently realised even if it is well-known that it assures injured workers are considered, from the Company's perspective, to be a contributing member of the work force thus promoting his or her reintegration [12]. Workplace-based return-to-work programs are not present in a lot of corporations. Return-to-work programs minimise the time before injured workers return to work fully and are often applied to non-workplace related injuries in advanced companies [13]. Return to work programs would thus be implemented.

The USA Disability Management code defines the rules to promote early return to work; it is ascertained that ill or disabled workers should be allowed to make a modified duty return to work early thus reducing the number of days off work [14]. A study showed that disability duration and associated costs are reduced by workplace-based return to work interventions, in particularly work accommodation offers and worker and healthcare provider contact [15].

Altogether, Disability Management is not fully established in Italy (in our study we observed that only three companies had a structured programs of Disability Management) and companies do not dedicated professional staff employed for this purpose. Nevertheless, in most cases, single approaches are presented, even if not in a structured way. A study on 29 self-insured

Australian companies found that these enterprises had in place some of the key elements of a disability management programme, even if they were not often well integrated in a comprehensive disability management approach [16].

Universal key success factors to put into practice Disability Management are: injury prevention and safety programs, health promotion and wellness programs, early intervention and return to work plans, benefit programs design, internal and external communication system, education, transition work options, worksite accommodations and identification of key worksite personnel [17]. They all need to be put into practice together in order to achieve good Disability Management.

On the other hand we believe that this survey could represent a starting point in the promotion of Disability Management in workplaces and at institutional levels, as it is innovative in the scientific Italian setting.

Different positive aspects were identified, helping to determine that Disability Management can be applied. All Companies, especially where case management was not present in a structured way, showed a lot of interest in the beneficial practices of disability management and in the roles of "Case Manager" and "Disability Manager" to influence the course of disability among injured workers.

In Italy, the "Case Manager" should be part of the Health and Safety Environmental Management, which exists in

many international industries. In small industries this expert should be part of Industrial Injury Compensation Board or National Social Security Institute, especially, for employers associations that can have an influence on the strategy for preventing injuries at work or for accommodating injured employees who return to work.

The primary target of Disability Management is preventing or minimising the impact of disability both on employers and employees and assisting in job retention. In this context, Disability Management represents a comprehensive set of skills and services (including case management) that are necessary to address the health-care planning and resources management needs [18]. As one could expect in the Italian setting, essentially all companies applied the preventive measures, derived from the application of the Italian 626/1994 and actually 81/2008 Legislative Decrees [19, 20]. But, even if workers' safety is guaranteed by the 626/94 law and subsequent modifications, there is the need to promote an all-inclusive evaluation and management of workers' safety, illness and disabilities. Disability Management programs should be considered, in fact, as essential from the financial, organizational and clinical point of view [21]. Application of in-house Disability Management programs were demonstrated to be successful, reducing costs and the duration of absenteeism [22], thus supporting the need to develop and improve Disability Management programs for Italian companies.

## References

- [1] Prevention, safety and return-to-work department, Saskatchewan workers' compensation board (WCB). Return to work audit. Available online from: [http://www.wcbsask.com/WCB-Portal/ShowProperty/WCBRepository/pdfs/rtw\\_program\\_audit.pdf](http://www.wcbsask.com/WCB-Portal/ShowProperty/WCBRepository/pdfs/rtw_program_audit.pdf) (accessed online on August 6, 2007).
- [2] INAIL. Rapporto annuale 2005, I Parte. Il fenomeno infortunistico nel 2005.
- [3] INAIL. Rapporto annuale 2005, II Parte. Infortuni sul lavoro e malattie professionali definiti e indennizzati dall'INAIL.
- [4] Curtis J, Scott LR. Integrating disability management into strategic plans: creating healthy organizations. AAOHN J 2004;52:298-301.
- [5] Steeves L, Smithies R. Disability Management in Canada: Rights and Responsibilities. Empl Benefits J 1998;23:37-9.
- [6] Hursh N. Benchmarking: What Works in Disability Management. Business & Health, January 2003.
- [7] Hursh N, Lui J. Disability Management and productivity: a message for the global workplaces. J Rehab Admin 2003;27:47-54.
- [8] Hall R. Disability management: best practices in early intervention and case management services. San Diego State University, 1998.
- [9] Shrey DE, Hursh NC. Workplace Disability Management: international trends and perspectives. J Occup Rehabil 1999;9:45-59.
- [10] Chapman LS. Meta-evaluation of worksite health promotion economic return studies. Art Health Promot 2003;6:1-16. Available online from: [http://fhs.mcmaster.ca/ceb/community\\_medicine\\_page/docs/meta%20evaluation%20of%20worksite%20health%20promotion.pdf](http://fhs.mcmaster.ca/ceb/community_medicine_page/docs/meta%20evaluation%20of%20worksite%20health%20promotion.pdf) (accessed July/August 2005).
- [11] Cronbach LJ. Coefficient Alpha and internal structure of tests. Psychometrika 1951;16:297-334.
- [12] Tripartite Meeting of Experts on the Management of Disability at the Workplace. Draft Code of practice on managing disability in the workplace. Geneva, 2001.
- [13] Stevens M. Bracing for EMPAQ. Business group launches benchmarking-standards initiative designed to improve absence and disability management programs. Risk & Insurance 2003;14:24.
- [14] Ricciardi W, La Torre G, Agostinelli A, Mannocci A, von Pinnocci M, Damiani G, et al. Il Disability Management: un nuovo approccio per la prevenzione. Ig Sanita Pubbl 2005;6:513-26.
- [15] Franche RL, Cullen K, Clarke J, Irvin E, Sinclair S, Frank J. Workplace-based return-to-work interventions: a systematic review of the quantitative literature. J Occup Rehabil 2005;15:607-31.
- [16] Westmorland M, Buys N. Disability management in a sample of Australian self-insured companies. Disabil Rehabil 2002;24:746-54.
- [17] National Institute of disability management and research. Disability management in a global context. Adelaide, September 27, 2006. Available online from: [www.workcover.com/documents.aspx?fno=1347](http://www.workcover.com/documents.aspx?fno=1347) (accessed online on August 8, 2007).
- [18] Doyle RH, Dixon CG, Moore CL. Expanding rehabilitation services to meet the legal needs of aging Americans. J Rehabil 2003;69:49-54.
- [19] Decreto Legislativo N. 626 del 19/09/94 (G.U. n. 265 del 12/11/94 – Supplemento ordinario n. 141).
- [20] Decreto Legislativo N. 81 del 9 aprile 2008 (Attuazione dell'articolo 1 della legge 3 agosto 2007, n. 123, in materia di tutela della salute e della sicurezza nei luoghi di lavoro) - G.U. n. 101 del 30 aprile 2008.



- [21] Kalina CM. *Strategies in disability management. Corporate disability management programs implemented at the work site.* Ann N Y Acad Sci 1999;888:343-55.
- [22] Boseman J. *Disability management. Application of a nurse based model in a large corporation.* AAOHN J 2001;49:176-86.

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■ Correspondence: Dr Giuseppe La Torre, Institute of Hygiene, Catholic University, Medical School Rome, largo F. Vito 1, 00168 Rome - Tel. +39 06 35001525 - Fax +39 06 35001522 - E-mail: giuseppe.latorre@rm.unicatt.it