VIOLENCE IN THE WORKPLACE: THE CASE OF HEALTHCARE PROFESSIONALS

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Workplace violence is an emergent issue on a global scale in the field of labour risks affecting all professions – and especially the health sector. Its prevention requires valid, reliable, situated and permanently updated information. Up until now such information has been obtained mainly from self-report surveys, with low response rates and considerable methodological problems of validity, due to the various biases involved. This article describes the design and the results of the implementation in several healthcare facilities in Catalonia (Spain) of the www.violenciaocupacional.net Web, a computerized system of on-line Violent Incident Notification (VIN). Furthermore, it describes the typology and prevalence of such violence in the studied sector, identifies its main risk factors and compares the data obtained with those from other relevant research. The Workplace Violence Questionnaire incorporated in this Web permits the integrated registration of the characteristics and circumstances of violent incidents against healthcare personnel in real time and with confidentiality. A single person notifies on-line the incidents from each health facility. This person would belong to the department of Human Resources or Prevention of Risks in the Workplace, and would be specially designated by his or her own facility or institution, which participates voluntarily in the project. During the period of 1 January 2005 to 31 December 2007, from the 38 participating facilities, employing some 18,500 people, 846 violent incidents were notified. Physical aggression was involved in 36% of cases and verbal aggression (sometimes accompanying the former) in 80%. The incidents affected nursing (48%), medical (32%), technical and administrative (13%), and other (7%) personnel. As an epidemiological database permanently updated in real time and from the same physical context as that of the incidents, the VIN system constitutes a novel tool for the collection of data on workplace violence in the healthcare sector. The results of its application confirm the importance of the problem in the Catalonian health sector, support the findings of other local and international studies and identify some key variables for the development of preventive policies in this field.
Key Words: Workplace Violence. Healthcare Workers, Violent Incident Notification.

La violencia ocupacional es un fenómeno emergente y global en el ámbito de los riesgos laborales que afecta a todas las profesiones – y muy especialmente al sector sanitario – y cuya prevención exige una información empírica válida, fiable, situada y permanentemente actualizada. Hasta el presente, esta información se obtiene básicamente de encuestas de autoinforme, con bajos porcentajes de respuesta y notables problemas metodológicos de validez, por los diversos sesgos que conlleva. Este artículo expone el diseño y los resultados de la implementación en diversos centros sanitarios de Catalunya de la Web www.violenciaocupacional.net, un sistema informatizado de Notificación on-line de Incidentes Violentos (NIV), describe la tipología y la prevalencia de esta violencia en el colectivo investigado, identifica los principales factores de riesgo de la misma y compara los datos obtenidos con los de otras investigaciones de referencia. El Cuestionario de Violencia Ocupacional incluido en esta Web permite un registro integrado de características y circunstancias de incidentes violentos contra profesionales de la salud en tiempo real y de modo confidencial. Una sola persona notifica on-line los incidentes de cada centro. Pertenece a los departamentos de Recursos Humanos o de Prevención de Riesgos Laborales y ha sido especialmente designada para ello por su propia institución, que participa voluntariamente en el proyecto. Los resultados muestran que entre el 01-01-2005 y el 31-12-07, desde los 38 centros participantes, en los que trabajan unas 18.500 personas, han sido notificados 846 incidentes violentos. En el 36 % de los casos se da cuenta de agresión física y en el 80 % de la de tipo verbal (que a menudo acompaña a la anterior). Los incidentes afectan a personal de enfermería (48%), médico (32%), técnico y administrativo (13%) y de otros sectores (7%). Como base de datos epidemiológicos permanentemente actualizada en tiempo real y desde el escenario natural de los incidentes, el sistema NIV constituye una herramienta novedosa de recogida de información sobre la violencia ocupacional en el sector sanitario. Los resultados de su aplicación confirman la importancia del problema en la sanidad catalana, ratifican tendencias observadas por otros estudios locales e internacionales y señalan algunas variables clave para el desarrollo de políticas preventivas en este campo.
Palabras clave: Violencia ocupacional. Profesionales de la salud. Notificación on-line de Incidentes Violentos.

Workplace violence, in its diverse forms of expression (physical, psychological, verbal, sexual, and so on) is currently observed and perceived as a global problem

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with local variations, and which crosses political and social frontiers, economic sectors, work environments and professional categories. Like other forms of everyday violence – such as family or gender violence –, having been considered for a long time as a second-order issue, of almost a private nature and of scarce social and organizational significance, it has come in the last 15 to 20 years to constitute a priority concern for a wide

range of international bodies interested in the quality of life and human welfare, so that it is presented as an important factor of psychosocial risk in the workplace, as a problem of human rights and as a socially pressing and economically relevant matter that concerns not only people's wellbeing, but also the health of the work environment itself, the effectiveness and efficiency of organizations and the quality of the services they provide (ILO/ ICN/ WHO/ PSI, 2002, Paoli & Merlie, 2001, Parent-Thirion et al., 2007, Weiler, 2006 a. b). According to the research by Di Martino (2003), the most important *direct costs* of workplace violence would include absenteeism, rotation and quitting, while among the *indirect costs* would be reduction in job motivation and commitment, in work performance and in competitiveness of the organization.

Emerging from within the framework of research on workplace violence (also referred to as *violence in the workplace, violence at work,* and so on) (Chapel & Di Martino, 2000, Di Martino et al., 2003, Einarsen et al., 2003) are studies that focus specifically on workplace violence against healthcare professionals – or *healthcare workplace violence.* A notable contribution to raising the profile of the problem in this sector – where indeed it is at its most serious – was made by the *Framework Guidelines for Addressing Workplace Violence in the Health Sector,* which were published jointly in 2002 by the International Labour Organization (ILO), the International Council of Nurses (ICN), the World Health Organization (WHO) and Public Services International (PSI). That document is based on the assertion that workplace violence in the healthcare sector, rather than being a mere individual and isolated matter concerning its victims, actually constitutes a structural and strategic challenge that affects the entire health system throughout the world (ILO/ ICN/ WHO/ PSI, 2002).

Although we cannot yet speak of an operational definition of the *healthcare workplace violence* construct that is universally agreed upon and accepted, in recent years various international bodies involved in the promotion of health, in the improvement of living and working conditions and in the prevention of risks at work, as well as institutions that oversee the social conditions of professional practice, have been making substantial efforts to formulate such a definition. Combining elements from diverse proposals (Krug, 2002, OSHA, 2004, Parent-Thirion et al., 2007, Di Martino, Hoel, & Cooper, 2003 Gerberich, 2004, Rumsey, 2007, ICN, 2007), healthcare workplace violence can be defined as an incident (isolated or repeated) involving hostile behaviour (generally verbal; sometimes physical) aimed by one or several persons (patients, their relatives or those accompanying them) toward personnel attending them in the context of a healthcare organization, in circumstances related to

their work, and which threatens the safety, well-being or health of the personnel, taking into account three dimensions: somatic, psychological and social. The scene of such violence can be any space (permanent or temporary) in which such personnel carry out their professional tasks, and any form of healthcare facility – regardless of size, location or type of activity – , including all kinds of hospitals and clinics, social-health centres, rehabilitation and long-term care units, GPs' or other health professionals' surgeries, outpatient or home-care services, and patients' or professionals' private homes, as well as outdoor or indoor contexts of buildings used by health personnel (car parks, access roads or paths, corridors, waiting rooms, stairways, lifts, private or official vehicles, etc.). The violence can be manifested in a variety of ways, depending on the people, cultures, organizations and types of relationship involved. In face-to-face interactions the violence can be: (a) *physical*, or by means of bodily force (single blows, pushing, slapping, kicking, biting, hair-pulling, beatings, punches, shooting, etc.), which produces somatic, sexual or psychological harm, or (b) *psychological*, in the form of verbal abuse (threats, insults, injury, etc.), intimidation, harassment, invasion of personal space, and so on. Communications technologies provide further means of psychological violence via phones, fax, e-mail, texting and the like.

The basic agreement on a definition represents merely the first of a series of urgent and necessary steps that can lead to the qualitative leap from a situation in which there is a substantial amount of recent empirical information on the topic to one in which there is high-quality production in the form of generalizable empirical conclusions and both cross-sectional and longitudinal comparisons of the results of different studies. These are key requirements for the assessment of needs and the identification of trends, as well as for the design and assessment of preventive programmes (Di Martino, 2002 a, Magin, 2005, Ferns, 2006, Agervold, 2007, Maguire, 2007, Rumsey, 2007). Up to now, the empirical information on the problem, though extensive, is heterogeneous, fragmentary and scattered. This circumstance can be explained by the diversity of contexts, situations, phenomena and processes studied, as well as by the lack of a universally-shared set of tools that would include a basic common glossary and generally-accepted criteria in relation to the categorization of dimensions and indicators, to crucial variables and to a precise road map for the procedures, instruments and data-collection techniques applicable to the field of workplace violence.

Indeed, scientific production on *workplace violence* involves the use of terms as diverse and heterogeneous as *violence, aggression, abuse, injury, threat, assault, intimidation,*

harassment, bullying, mobbing, battering or victimizing, and includes work ranging from the study of any type of violent incident in general (Benveniste, 2005, Farell, 2006) to those which distinguish as many as 14 different categories of workplace aggression and violence (Ryan & Maguire, 2006); in between, it covers research based on dichotomic classifications (Benveniste, 2005, Krug, 2002, Di Martino, 2003) and that with three (Rumsey, 2007, Parent-Thirion, 2007), four (Kwok, 2006), COMB, 2004 a b) or five categories (Magin, 2005, Rumsey, 2007). Occasionally, different "seriousness levels" of types of violence are mixed in the same study (Magin, 2005). Furthermore, US literature that involves the specific category of homicide customarily uses the sub-distinction "fatal/non fatal injuries" (Gerberich, 2004). As regards the operationalization of variables such as the time period considered for the recording of violent incidents, the range covered by different reports is extensive, stretching from, at one end of the scale, "in the last week" to, at the other, "at some time in your working life". Data-collection techniques include self-report surveys (face-to-face, by telephone, by post or by e-mail), semi-structured interviews and documentation provided by public bodies in the work, social, health, judicial or police contexts, or by private institutions related to the processing of insurance policies. In self-report surveys (whose response percentages vary wildly) there tends to be over-representation of people more sensitized to the problem, whilst documentary sources give exaggerated importance to "physical" violence.

In the midst of so much confusion, the body of epidemiological information currently available on healthcare workplace violence provides certain accumulated evidence that has come to form part of the premises of all research on the topic (AMA, 1995, ANA, 2002, ILO/ ICN/ WHO/ PSI, 2002, Di Martino, 2002b, Di Martino et al., 2003, WHO, 2003, Gerberich, 2004, COMB, 2004 a, OSHA, 2004, Schopper et al., 2006, Rumsey, 2007, ICN, 2007), and which is organized around some key premises: (a) It constitutes an emerging problem on a global scale; (b) It has serious effects on victims, on organizations, on the health system and on people's quality of life (see Table 1); (c) The types of health service most exposed to the risk of violent incidents are psychiatry, hospital casualty or emergency services, and ambulances; (d) The patients most likely to behave violently towards healthcare professionals are those with psychiatric pathology or with problems derived from the abuse of alcohol or other drugs; (e) The psychological dimensions of workplace violence, though serious, have traditionally been minimized; (f) The "reasons" usually cited for such violence relate to information, treatment (manner), waiting time and service received; (g) Risk factors for the occurrence of

TABLE 1
EFFECTS OF WORKPLACE VIOLENCE

Dimensions	Processes	Indicators
Organization	Significant decrease	- Number of hours worked - Quantity and quality of services provided - Quality of life at work and social climate - Institutional image - Organizational productivity, efficiency, competitiveness and excellence
	Significant increase	- Costs of health services, due to the adoption of strategies of defensive medicine, which generally translates into an increase in requests for unnecessary complementary tests, systematic referral to hospital emergency services or specialists, a tendency for rapid, superficial visits with little commitment, unjustified prescription of drugs, automatic authorization of the use of ambulances and the extension of leave from work at the simple request of demanding patients perceived as dangerous - Dissatisfaction of users, clients and professionals - Negative professional-patient social interactions. - Tension and conflict at work
Person	Significant decrease	- Job motivation - Commitment to the organization - Professional self-esteem - Job performance - Empathy in the healthcare relationship - Disposition to treat or deal with potentially conflictive patients - Duration of certain medical visits
	Significant Increase in symptoms	- Physiological (gastrointestinal and respiratory dysfunctions, insomnia, headaches, fatigue, etc.) - Emotional (unease, dissatisfaction, anxiety, stress, irritability, feelings of insecurity, helplessness, impotence, frustration, fear, guilt, shame, distrust, depression, etc.) - Cognitive (perplexity, confusion, perceived injustice, professional pessimism, difficulties of attention, memory, concentration, planning and performance of tasks, etc.) - Behavioural (attitudes of absenteeism, tendency to take sick leave, lateness, requests for leave, transfer, shift changes, unpaid leave, job change or early retirement, desire to leave the organization, the job or the profession, recourse to psychoactive drugs, etc.) - Psychosocial (withdrawal, poor communication, depersonalized treatment

violent incidents are related to the structure and behaviour of the organization, to the dynamic of the social-work context and to individual predispositional factors (see Table 2); (h) Prevention of the problem requires a combination of tactical measures and strategic plans based on improved knowledge of the risk factors and on preventive programmes emerging from such knowledge (see Table 3).

With regard to the prevention of what it refers to as an *epidemic*, the joint programme on healthcare workplace violence proposed by the ILO/ ICN/ WHO/ PSI (2002) lists a series of general *rights and responsibilities* of the different agents involved in this issue. It is the duty of (a) Administrative authorities to *request the collation of information and statistical data on the extent, the causes and the consequences of workplace violence*, (b) Employers to *systematically assess the incidence of workplace violence and the factors that can lead to or generate such violence*, (c) Workers to *report incidents, even those of apparently little importance*, (d) Professional bodies to *perfect data-compilation procedures on incidents of healthcare workplace violence and to promote the compilation of such data*, (e) the Community in general to *contribute to the creation of an information and knowledge network in this sector*, and (f) Organizations to *set up health and safety committees or teams, which receive reports on violent incidents, carry out studies of such violence, and respond with recommendations for corrective strategies*.

With these proposals in mind, the general aim of the present work consists in presenting the design and results of the implementation, at various health facilities in Catalonia, of the www.violenciaocupacional.net web, which permits online *Violent Incident Notification* (VIN). This will permit, moreover, the description of the typology and prevalence of this violence in the sector in question, identification of the main risk factors for it, and comparison of the data obtained with those from other relevant research.

METHOD
Procedure
On the initiative of the Health Section of the Catalonian Society for Workplace Safety and Medicine (*Sociedad Catalana de Seguridad y Medicina del Trabajo*), a research group on workplace violence in the healthcare sector participated in the mobilization of institutions, professional medical associations, scientific societies and other professional associations in the health sector concerned about the prevention of this problem. With the help of a grant from the *Fundación Prevent*, the XIII Conference on the Prevention of Workplace Risks in the Healthcare Sector, held in May 2006 at the Alt Penedès Health Board (*Consorci Sanitari de l'Alt Penedès*), saw the launch of the www.violenciaocupacional.net web, restricted access to which was given to representatives of a group of hospitals, clinics and other healthcare facilities in Catalonia to which Violence Prevention Commissions (COPREVI) had previously been sent, and which had decided to participate, voluntarily and without remuneration, in the research. This Web functions as a means of integrated notification and recording of incidents in real time and in confidential fashion, thanks to the online Violent Incident Notification (VIN) facility it offers. Each participating facility assigns to a person (generally from the department of Human Resources or Prevention of Risks in the Workplace) the

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TABLE 2
RISK FACTORS FOR WORKPLACE VIOLENCE

- Structure of the organization. Highly rigid (bureaucratized or authoritarian), highly flexible (unstable, precarious, unpredictable), lacking coherent policies and rules, with ineffective or defective circuits and channels of information, with insufficient, ambiguous informative content, excessively delayed, etc.
- Organizational behaviour. Arbitrary or authoritarian management, favouritism or discriminatory treatment, etc.
- Labour and sociocultural context. Stressful working conditions and climate, overcrowding (in emergency rooms, outpatient depts., etc.), long waiting times, high cultural value on individualism, instrumental violence and aggressive models of behaviour ("unless you are aggressive you don't get proper attention"), etc.
- Individual "predispositional" factors. *Risk profiles* (patients with violent history, psychiatric, alcoholic, drug-dependent patients, etc.).

TABLE 3
ELEMENTS OF PREVENTION OF WORKPLACE VIOLENCE

Level	Proposals
Personal	- Sensitization - Information - Training - Expertise
Organizational	- Reinforcement of security measures/personnel - Redesign of the organization, of the physical space in which attention is provided, and of access and exit routes from treatment/attention rooms, and changes in management culture and style and in the quantity and quality of information given to service users - Creation of workplace violence observatories - Measures for early detection, crisis intervention, palliative treatment and, above all, primary prevention. - Optimization of communication systems - Anti-violence behaviour protocols
Social	- Development and updating of an adequate legal framework that functions as a preventive factor of a dissuasive nature - Promotion of cultural values such as good citizenship

responsibility for reporting violent incidents occurring in their organization. Regardless of the date of their effective incorporation into the network, this person is required to report, as far as possible, all the cases recorded at his or her facility from 1 January 2005 until the date of notification, following the instructions of a questionnaire accessed through the Web itself. In order to register with the system a username and password have been provided (which can later be changed, in accordance with Spain's Data Protection laws). After reading and accepting a confidentiality clause, this person inputs his or her personal data and name and the census detail of the institution or facility. Finally, the Web administration, after carrying out the necessary verifications, activates the notification facility. Reports data are processed statistically by means of the SPSS 14.0 program.

Instrument

The basic data-collection tool is the questionnaire incorporated in the web page. The first step in its construction was a selection of items with criteria of representativeness and relevance based on a review of the literature, taking as basic references AMA, 1995, ANA, 2002, ILO/ ICN/ WHO/ PSI, 2002, Di Martino, 2002b, Di Martino et al., 2003, WHO, 2003, Gerberich, 2004, COMB, 2004 a b, and Magin et al., 2005. Also taken into account were relevant contributions from members of the Official Medical College of Barcelona (*Col.legi Oficial de Metges de Barcelona*, COMB). A model of presentation of questions originally applied in self-report surveys was adapted to the requirements of a questionnaire accessible via a website, which must be filled out online by a single person from each facility, reporting on violent incidents occurring to other persons in their facility. The draft questionnaire was revised twice by an interdisciplinary commission (from medicine, nursing and psychology) of experts in workplace violence who, not having been directly involved in its construction, performed the function of "judges". Item format on the VIN questionnaire was based on the multiple-choice model, except for certain specific questions (referring to the person's sex, job, shift, etc.). For example, in the category "verbal aggression", one or more options can be chosen from a list including "insult", "verbal threat" and "verbal intimidation". The same applies to questions such as that relating to the circumstances giving rise to the incident, which also offers different options (information, attention, treatment (manner), waiting time, medical discharge). The questionnaire includes a series of closed items related basically (a) to demographic and employment data of the victim, to the demographic profile of the aggressor, including relevant antecedents and other relevant characteristics, and to the type of relationship between the aggressor and the victim, (b) to the scene of the violent incident (facility, service, place, shift, etc.), and (c) to the process of the incident, including the types of violence involved (physical, verbal, etc.), to the circumstances giving rise to the incident (information, attention, treatment (manner), waiting time, medical discharge, etc.), to the way the incident was managed (initially and subsequently), and to its effects (physical, mental, work-related) on the victim.

Sample

The population of reference is all personnel working within the Catalonian Health Service, which serves the approximately 7.5 million people with the *CAT-SALUT* healthcare card, within a mixed health model that integrates in a single public network all healthcare resources, be they publicly or privately owned.

For the present study we used the sample of convenience made up of all personnel employed in the 38 healthcare facilities which, voluntarily and without remuneration, joined the Web, and from which data have been provided on violent workplace incidents occurring between 1 January 2005 and 31 December 2007, via the www.violenciaocupacional.net web. The majority of these facilities form part of the XHUP (Xarxa Hospitalària d'Utilització Pública) network and are a heterogeneous group ranging from hospitals to social-health centres and primary care units. Some 18,500 people are employed in these facilities, of whom about three-quarters are women and a similar proportion have permanent employment contracts, a fifth are medical personnel and over half work in the nursing sector, while the rest are employed in administration and other services.

RESULTS

In the period between 1 January 2005 and 31 December 2007 a total of 846 violent incidents were reported. Of these violent acts, 75% were against female personnel, which indeed make up three-quarters of the total staff at the facilities studied. Of the aggressors, 64% were men. The majority of those committing the violence (73%) are patients, 20% are relatives and 7% are people accompanying the patient. A third of the aggressors have a previous record of this type of violence, and in almost a third of cases of violence there are psychologically propitious circumstances (psychiatric pathology, drug addiction or alcoholism).

As far as time of occurrence is concerned, 51% of aggressions took place during morning shifts, 31% in the afternoon/evening, and 18% at night. Emergency units were the scene of 29% of the incidents, whilst 22% took place in hospital wards, 19% in surgeries or consulting rooms, 6% in admissions, 5% in corridors and the rest in miscellaneous locations.

By professional sector, the reported incidents affected nursing (48%), medical (32%), and technical and administrative staff (13%), and those working in other sectors (7%).

In 36% of cases the violence was physical, in 80% it was verbal and in 15% it took other forms, such as threatening behaviour and invasion of personal space. In over half of the physical violence cases it was accompanied by verbal violence. The principal forms of physical violence reported are blows and pushing. In 6% of cases some kind of weapon was used, which in half of the cases was a heavy object, in a quarter of them was a sharp object, and in a few, a firearm. Thirty-nine percent of the acts of verbal violence consisted of insults, 32% of verbal intimidation and 29% of threats.

Premeditated hostile behaviour appears in only 5% of reported cases. Among the "reasons" most commonly cited in notifications as triggering the violent episode are a supposed lack of quality or quantity of the information received (26%) or the attention provided (23%), frustration over waiting times (15%), undesired medical discharge (14%) and the manner in which the patient is treated (10%).

From the majority of reported cases it can be inferred that health service personnel are somewhat ill-prepared to handle potentially conflictive situations involving some risk of violent incidents. In almost half of notified cases there was some kind of immediate intervention during the incident (by coworkers or by the security services of the facility itself). Police intervened in 7% of the cases. In 67% of cases there was no post-incident intervention, and in another 17% the inquiry is still in progress. Six percent of incidents have led to judicial processes, with extra-judicial actions in the rest of cases. Three percent of the violent acts caused serious physical injury and 13% caused slight injuries. In 22% of cases the victim reported some kind of psychological repercussion. Three percent of incidents led to sick leave in the employee, and in another 3% of cases the working day was interrupted for physical (2%) or psychological (1%) reasons. Practically none of the victims rate the incident as a positive or enriching experience for them from the professional point of view. On the contrary, the majority feel that it will have a negative effect on the way they do their job, whilst a minority consider that the incident will have no significant repercussions in their work.

DISCUSSION

Compared to the self-report survey – the instrument most commonly used in the investigation of workplace violence –, the online system of notification of violent incidents (VIN) is innovative, and works partly as a corrective and partly as a complement for the traditional system, which is hampered by a lack of validity imputable to three factors: the normally low percentage of responses, self-report bias, and the potential combined effect of these two. Self-report bias leads, in the field of organizational behaviour, to what Coyne et al. (2003) refer to as an "excess of subjectivity", which induces people to over-report behaviours perceived as socially appropriate and desirable and to under-report those perceived as the opposite (Donaldson & Grant-Vallone, 2002). The combination of a low response percentage for surveys and the self-report bias may mean that surveys actually returned tend to over-represent those who are most sensitized to the issue or most affected by it, and therefore with most propensity to take on the responsibility of reporting about an issue that concerns and interests them, contributing information with which it is attempted to "confirm" the hypotheses that supposedly guide research. This combination of *response biases* detracts from the representativeness of the sample due to a *self-selection bias*, through which those most sensitized to the research issue would be over-represented. With the VIN we cannot speak of response percentage, since the system records all the information provided by each facility. In this regard, Cowie et al. (2002) distinguish a dual "perspective" in research on bullying: "internal" (characteristic of self-report techniques) and "external" (observational), which these authors consider to be of better methodological quality. The VIN provides information collected by professional observers, generally experts in human resources and in workplace risks. Counter to these advantages, the VIN has the disadvantage of *volunteer bias*, giving rise to both pragmatic and methodological limitations: on the one hand, voluntary notification of violent incidents may mean that, in some organizational contexts, "notification" takes place always and only when the work of the professional responsible allows, which would lead to a deficit in the quantity, quality and punctuality of the notifications; and on the other, given the very ethic and logic of the process (voluntary participation of persons and facilities sensitized to the problem and committed to the cause of prevention of healthcare workplace violence), no control by healthcare facilities has been carried out that would allow verification that the quantity and quality of the information provided by the VIN system matches the reality of (all) the workplace violence "events" that have actually occurred at the facility in the studied period. Such controls tend to be carried out in mega-surveys, but only exceptionally in the rest of studies.

As far as the data obtained are concerned, the discussion focuses principally on two points: on the one hand, the comparison of the frequencies and distribution of the violent incidents according to types of violence, professional sectors involved and circumstances of risk of occurrence of incidents;

and on the other, the implications of the information generated. The 846 violent incidents registered via the VIN system indicate that more than 4.5% of the 18,500 professionals employed at the health facilities in the area studied had been direct victims of violence at work over the previous three years. Even though this figure of 4.5% is in the lower range of what is considered statistically normal in the majority of published studies on healthcare workplace violence – in which double-digit percentages are common – it still constitutes an alarm signal for a significant workplace risk factor for health professionals. In this regard, it is relevant to highlight the degree of dispersion of percentages of prevalence of the problem across the different studies, which reflect the wide variation not only of the sociocultural, organizational and professional variables considered, but also of the research designs applied, all of which makes direct comparisons problematic. Such variation with regard to percentages of prevalence also appears, for example, in the specific sub-field of *mobbing*, where the range extends from the 3.5% of a sample of Swedish employees (Leyman, 1996) to the 71% of a study with public sector employees in the United Kingdom (Cortina et al., 2001), whilst another sample from the British National Health Service yields a figure of 40% (Therani, 2004).

The study with most similarity to the present work is that published by the COMB (2004 a), based on an e-mail survey of a stratified random sample of 1500 medical professionals with effective responses from 377 (25%), of whom 33.4% declared that, over the course of their professional life, they had personally "experienced a situation of violence in their workplace", whilst another 25.7% reported having "witnessed" such a situation of violence. Some authors – such as Leyman (1996), who did not hesitate to extrapolate to the working life of the entire employed population of Sweden what he observed in a sample of convenience for a period of 15 months, or Davenport et al. (2002), who extrapolated to the working population of the United States what Leyman speculated must be occurring in Sweden – would perhaps suggest some calculation to propose that 4.5% in three years is equivalent to around 30% in 20 years, which would appear to confer some similarity on the data from the two studies. However, from a theoretical and methodological point of view, such extrapolations are nothing short of arbitrary and gratuitous.

The relatively "low percentage of prevalence" of workplace violence notified by means of the VIN system in "comparison" with those from reports based on self-report surveys may actually be attributed to the different data-gathering procedure and, above all, to the different type of information source: self-report surveys provide percentages of incidents "declared" by persons who have opted to respond to the survey, whilst the VIN registers incidents "notified" by expert personnel handling only the information that has reached certain central organs of the institution or facility. According to Senuzun (2005), only 16.5% of violent incidents "declared" in a survey of emergency service nurses at four hospitals in Turkey had been "notified" officially to other authorities (hospital or police/judicial authorities). Similar findings emerge from other studies, according to which only some of the incidents involving physical violence are reported, and an insignificant portion of those involving psychological violence: higher authorities of the organization were not notified of 70% of violent incidents registered with the emergency services at a series of Australian hospitals (Lineham, 2000); the same occurred for 82% cases of verbal abuse on nurses at hospitals in Hong Kong (Kwok et al., 2006), and for 64% of "physical assaults" on healthcare personnel working in the emergency department at 5 hospitals in the region of Cincinnati (USA) (Gates et al., 2006). In summary, all the indications are that information on the majority of violent incidents affecting healthcare staff in their workplace goes no further than the victim's closest social circles. Hence the insistent recommendations, in the "Guidelines" issued by diverse international bodies (ILO et al., 2002, ICN, 2007, Rumsey, 2007), that health personnel make official notification of violent incidents, and that healthcare organizations in particular and a range of public institutions in general take note, and adopt the necessary and appropriate preventive measures.

Considering the distribution of violent incidents "notified" via the VIN system according to the main categories of workplace violence established, we can observe that 36% of cases involve physical violence and 80% involve verbal violence (sometimes accompanying the physical violence). These data are, in general, in line with those contributed by other research. Table 4 presents data on these two types of "declared" workplace violence in studies that have applied self-report questionnaires and diverse models of research design.

The information provided by the VIN system makes it possible to draw a meaningful outline of workplace violence in the Catalonian health sector, compare it with those from other professional contexts and fields and identify key variables for the development of preventive policies. The 846 cases of violent incidents occurring in a population of 18,500 professionals employed in health facilities indicate that at least 4.5% of these people have been victims of violence at their places of work in the last two years. A third of reported cases refer to physical violence, and four out of five to psychological violence. The latter leaves few visible signs in the short term,

TABLE 4
DATA ON PHYSICAL AND VERBAL VIOLENCE ACCORDING TO SELF-REPORT SURVEYS

Source	Personnel studied	Physical violence (%)	Verbal violence (%)
Al-Sahlawi, 1999	Doctors (Emergency and Traumatology). Kuwait	35	86
May, 2002	Nurses (Hospital Acute Unit). Florida	74	88
Winstanley & Whittington, 2004	Hospital health professionals. UK	27	68
COMB 2004 a	Medical personnel. Barcelona	28	70
Ayrancy, 2005	Emergency healthcare personnel. Turkey	8.5	69.5
Carmi, 2005	Medical personnel. Israel	9	56
Jackson, Hasley, 2005	Healthcare personnel. Jamaica	7.7	38.6
Kowalenko et al., 2005	Emergency doctors. Michigan	28.1	74.9
Magin et al., 2005	GPs. Australia	12	42.1
Senuzum, 2005	Nurses (Emergency). Turkey	19	98
Kwok, 2006	Nurses. Hong Kong	18	73

but can have substantial undesirable consequences in the medium and long term, so that it is becoming more and more theoretically and socially relevant as an emerging problem in relation to quality of working life (Parent-Thirion et al., 2007, WHO, 2007). More than providing simply a catalogue of past and closed incidents, research in this field offers a map of processes which need to be followed up with regard to their medium- and long-term impact on victims and on the work teams of which they form part, and which demand an assessment of the potentially negative effects on victims' professional motivation, attitudes and values, on their work-related ethic and behaviour, and on their commitment to their job, to their organization and to the people they attend.

Some of the "reasons" identified as triggers of violent behaviour in this context refer to organizational phenomena and processes (information, attention, waiting time, treatment (manner), etc.) that are always open to some kind of improvement. Such improvement, where implemented, may in turn constitute an excellent form of prevention, on removing some of the recurring situations that can lead to aggression against healthcare professionals. Another shortcoming of the health system exposed by the VIN is the lack of preparedness and training among healthcare personnel for dealing with potentially conflictive situations that involve some risk of the occurrence of violent incidents. Such factors might lead one to consider that, in some contexts and situations, both patients and professionals may be victims of organizational deficiencies that could clearly be remedied.

In conclusion, the VIN system is a useful and effective resource for epidemiological research. The data obtained via its application confirm the quantitative and qualitative importance of workplace violence in the Catalonian health sector and can contribute to the design of relevant preventive policies.

REFERENCES

Agerwold, M. (2007). Bullying at Work: A discussion of definitions and prevalence, based on an empirical study. *Scandinavian Journal of Psychology, 48 (2)*, 161-172.

Al-Sahlawi, K.S., Zahid, M.A., Shahid, A.A., Hatim, M. & Al-Bader, M. (1999). Violence against doctors: 1. A study of violence against doctors in accident and emergency departments. *Journal of Emergency Medicine, 6*, 301-304.

AMA [1995]. *Violence in the medical workplace: prevention strategies.* Chicago, IL: American Medical Association.

ANA (American Nurses Association). (2002). *Preventing workplace violence.* Washington DC: ANA. Consulted April 2007 at http://www.nursingworld.org/osh/violence.pdf

Ayranci, U. (2005). Violence toward health care workers in emergency departments in west Turkey. *European Journal of Emergency Medicine 28* (3), 361-365.

Benveniste, K. A., Hibbert, P. D. & Runciman, W. B. (2005). Violence in health care: The contribution of the Australian Patient Safety Foundation to incident monitoring and analysis. *Medical Journal Australia, 183*(7), 348-351.

Carmi-Iluz, T., Peleg, R., Freud, T. & Shvartzman, P. (2005). Verbal and physical violence towards hospital- and community-based physicians in the Negev: an observational study. *BMC Health Services Research, 15*, 50-54.

Chappell, D. & Di Martino, V. (2000). *Violence at Work.* Geneva: International Labour Office. (2ª Ed.).

Cortina, L.M., Magley, V.J., Hunter Williams, J. & Langhout, R.D. (2001). Incivility in the workplace: Incidence and impact. *Journal of Occupational Health Psychology, 6*, 64-80.

COMB (2004 a). *La violència en el lloc de treball. L' experiencia dels metges de Barcelona.* Barcelona: Col.legi Oficial de Metges de Barcelona.

COMB (2004 b). *Quaderns de la bona praxi. Guia per prevenir i gestionar la violència en el lloc de treball contra els metges*. Barcelona: Col.legi Oficial de Metges de Barcelona.

Cowie, H., Naylor, P., Rivers, I., Smith, P.K. & Pereira, B. Measuring workplace bullying. *Aggression and Violent Behavior, 7*, (1), 33-51.

Coyne, I., Seigne, E. & Randall, P. (2000). Predicting workplace victim status from personality. *European Journal of Work and Organisational Psychology, 9*, 335-49.

Coyne, I., Smith-Lee Chong, P., Seigne, E. & Randall, P. (2003). Self and peer nominations of bullying: An analysis of incident rates, individual differences, and perceptions of the working environment. *European Journal of Work and Organizational Psychology, 12* (3), 209-228.

Davenport, N., Schwartz, R.D. & Elliot, G.P. (2002). *Mobbing. Emotional abuse in the American workplace*. Ames, Io: Civil Society Pub.

Di Martino, V. (2003). *Workplace violence in the health sector. Relationship between work stress and workplace violence in the health sector*. Geneva: ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in the Health Sector.

Di Martino, V. (2002 a). *Workplace Violence in the Health Sector - Country Case Studies. Synthesis Report*; Geneva: ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in the Health Sector.

Di Martino, V. (2002 b). *Framework Guidelines on Workplace Violence in the Health Sector*. Geneva: ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in the Health Sector.

Di Martino, V., Hoel, H. & Cooper, C. L. (2003). *Preventing violence and harassment in the workplace*. Dublin: European Foundation for the Improvement of Living and Working Conditions./Luxembourg: Office for Official Publications of the European Communities.

Donaldson, S.I. & Grant-Vallone, E.J. (2002) Understanding Self-Report Bias in Organizational Behavior Research. *Journal of Business and Psychology, 17* (2), 245-260.

Einarsen, E., Hoel, H., Zapf, D. & Cooper, C.L. (Eds.) (2003). *Bullying and emotional abuse in the workplace. International perspectives in research and practice*. London/New York: Taylor & Francis.

Farrell, G.A., Bobrowski, C. & Bobrowski, P. (2006). Scoping workplace aggression in nursing: findings from an Australian study. *Journal of Advanced Nursing, 55* (6), 778–787.

Ferns, T. (2006). Violence and aggression in the emergency department: Factors impinging on nursing research. *Accident and Emergency Nursing, 14* (1), 49-55.

Gates, D., Ross, C. & McQueen, L. (2006) Violence against emergency department workers. *Journal of Emergency Medicine, 31* (3) 331-337.

Gerberich, S.G., Church, T.R., McGovern, P.M., Hansen, H.E., Nachreiner, N.M., Geisser, M.S., Ryan, A.D., Mongin, S.J. & Watt, G.D. (2004). An epidemiological study of the magnitude and consequences of work related violence: the Minnesota Nurses' Study. *Occupational and Environmental Medicine, 61*, 495-503.

ICN (International Council of Nurses) (2007). *Guidelines for addressing violence in the workplace*. Geneva: ICN.

ILO/ICN/WHO/PSI (2002). *Framework Guidelines for Addressing Workplace Violence in the Health Sector*. Geneva: International Labour Organization/International Council of Nurses/World Health Organization/Public Services International. Joint programme on workplace violence in the health sector.

Jackson, M. & Ashley, D. (2005). Physical and psychological violence in Jamaica's health sector. *Revista Panamericana de Salud Publica, 18(2)*, 114-21.

Kowalenko, T., Walters, B.L., Khare, R.K., Compton, S. (2005). Michigan College of Emergency Physicians Workplace Violence Task Force. Workplace violence: a survey of emergency physicians in the state of Michigan. *Annals of Emergency Medicine, 46* (2), 142-147.

Krug, E. et al. (Eds.) (2002). *World Report on Violence and Health*. Geneva: World Health Organization.

Kwok, R.P., Law, Y.K., Li, K.E., Ng, Y.C., Cheung, M.H., Fung, V.K., Kwok, K.T., Tong, J.M., Yen, P.F. & Leung, W.C. (2006) Prevalence of workplace violence against nurses in Hong Kong. *Hong Kong Medical Journal, 12*, 6-9.

Leyman, H. (1996). The content and development of Mobbing at work. *European Journal of Work and Organizational Psychology, 5* (2) 165-184.

Lyneham, J. (2000). Violence in New South Wales Emergency Departments. *Australian Journal of Advanced Nursing, 18* (2), 8-17.

Magin, P.J., Adams, J., Sibbritt, D.W, Joy, E. & Ireland, M.C. (2005). Experiences of occupational violence in Australian urban general practice: a cross-sectional study of GPs. *Medical Journal of Australia, 183* (7), 352-356.

Maguire, J. & Ryan, D. (2007). Aggression and violence in mental health services: Categorizing the experiences of Irish nurses. *Journal of Psychiatric and Mental Health Nursing, 14*, 120-127.

May, D.D. & Grubbs, L.M. (2002). The extent, nature, and precipitating factors of nurse assault among three groups of registered nurses in a regional medical center. *Journal of*

Emerging Nursing, 28(3), 191-197.

Occupational Safety and Health Administration (OSHA). (2004). *Guidelines for preventing workplace violence for health care and social service workers.* Washington, DC: U.S. Department of Labor, OSHA. Consulted 26 April 2007 at http://www.osha.gov/Publications.

Paoli, P. & Merllié, D., (2001). *Third European survey on working conditions 2000,* Luxembourg: Office for Official Publications of the European Communities/ European Foundation for the Improvement of Living and Working Conditions.

Parent-Thirion, A., Fernández, E., Hurley, J. & Vermeylen, G. (2007). *Fourth European Working Conditions Survey.* Dublin: European Foundation for the Improvement of Living and Working Conditions.

Rumsey, M., Foley, E., Harrigan, R. & Dakin, S. (2007). *National Overview of Violence in the Workplace.* Australia: Royal College of Nursing.

Ryan, D. & Maguire, J. (2006). Aggression and violence. A problem in Irish Accident and Emergency departments. *Journal of Nursing Management, 14* (2) 106-115.

Schopper, D., Lormand, J.D. & Waxweiler, R. (Eds.) (2006). *Developing policies to prevent injuries and violence: guidelines for policy-makers and planners.* Geneva: World Health Organization.

Senuzun Ergün, F. & Karadakovan, A. (2005). Violence towards nursing staff in emergency departments in one Turkish city. *International Nursing Review, 52*(2), 154-60.

Tehrani, N. (2004)**.** Bullying: A Source of Chronic Post Traumatic Stress? *British Journal of Guidance and Counselling, 32* (3), 357-366.

Weiler, A. (2006 a). *Annual Review of Working Conditions in the EU: 2005–2006.* Dublin: European Foundation for the Improvement of Living and Working Conditions.

Weiler, A. (2006 b). *Quality of work and employment 2006.* Dublin: European Foundation for the Improvement of Living and Working Conditions.

WHO (2003) *Developing National Policies on Violence and Injury Prevention.* Geneva: World Health Organization.

Winstanley, S. & Whittington, R. (2004). Aggression towards health care staff in a UK general hospital: variation among professions and departments. *Journal of Clinical Nursing, 13*(1), 3-10.