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Suggestion a Template for Accident Reporting Form

MOHAMMAD SADEGH SOHRABI[1], NEDA MAHDAVI[2], OMID KALATPOUR[3*]

[1]Department of Industrial Design, School of Architecture and Urban Design, Art University of Isfahan, Isfahan, Iran;

[2]Department of Ergonomics, Hamadan University of Medical Sciences, Hamadan, Iran;

[3]Center of Excellence for Occupational Health, Research Center for Health Sciences, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

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ABSTRACT

The successful implementation of the preventive interventions and corrective actions are considerably dependent on the existence of a sound system for incidents record keeping and analyzing. This study evaluated the adequacy of injury and illness report forms and resolved the found limitations to improve the safety management systems in general. A structural surfing method was employed to search the intended information. All obtained information forms of the foreign countries that conveyed less information than to the base form were excluded from the study. Accordingly, five forms remained in the research path. Overall structure of all forms was compared to three sections. In aforementioned forms, 12% of total information belonged to the workplace and employer information section, 55% and 33% was in the incident information and injured worker information sections, respectively. Iran's Social Security Form (ISSF) has 60% of all listed entries for workplace and employer information section. About 40% of all other information entries for this section are missed. This form contained 60% of the workplace information section, 28% for accident information and 54% for injured person information. Accident condition section for ISSF is nearly complete. ISSF lacks some necessary information in the recording of outcomes of accident and medical treatment information. Finally, we suggested a revised form presented based on the strengths and weaknesses of all forms. This form proposed to will be used in a pilot study in fields for reporting occupational accidents and then be legally present for implementation.

KEYWORDS: *Occupational injuries, Safety, Iran*

INTRODUCTION

According to the Bureau of Labor Statistics (BLS) definition, the occupational injuries encompass any type of hurts, ailments, diseases or other kinds of disorders arising from the work-related exposures or confronting unsafe conditions [1]. Apparently, the occupational death, unconscious, lost working time, restricted work capacity or work transfer and medical treatments (excluding the first aids required cases) are included in this definition [1- 2]. Such injuries have rooted in the working conditions and imposed huge losses to the national economies.

On the other hand, the successful implementation of the preventive interventions and corrective actions are considerably dependent on the existence of a sound system of the incidents record keeping and analyzing [3].

Establishing a well-designed system for reporting, recording and analyzing the occupational injuries would enhance the organization's capabilities to protect against the further injuries, clarify the resource allocation approaches and specifies the needed training contents for the potentially affected workers. Managing the occupational injuries is an activity that starts with the reporting, continues with the analyzing, resolved with the corrective actions and ended with the communicating the findings and facts. Of course, there may be some administrative, legal or insurance activities within this process [3].

Corresponding author: Omid Kalatpour
Email: ***kalatpour@umsha.ac.ir***

An accurate and concise system for incident record keeping is one of the best entry to identify the shortcomings of the workplace environment and unsafe behavior patterns of workers [4].

Nowadays, there is a rapid growth in the number and indexes of accident/incident reporting systems. Different countries use different reporting and reporting systems. Some of the known systems for accident recording and reporting are the (Reporting of Injuries Diseases and Dangerous Occurrences Regulations) RIDDOR system in UK (5], OSHA-300 system in the USA [6], and Australia's system [7].

In addition to the relative differences in the detailed content of these systems, various biases can also affect the results of the gathered information in these systems. For example, author bias, judgment bias, recognition bias, political bias, sponsors and professional bias [4].

There are significant differences in the type of accident being notified to authorities. This is mainly due to differences in the legal definition of ‘‘accident at work’’ between the countries. In Belgium, Austria, Portugal, and Spain the accidents that occur on the way to, or from, work is, from the legal point of view, considered to be accidents at work and are registered on the same database, although classified as a special category. In other countries, e.g., Germany, Italy and the United Kingdom, they are classified as ‘‘commuting accidents’’ rather than accidents at work [5].

In addition, most of the proactive planning process of any public or industrial health systems is based on the adequacy of the record keeping systems. Most of the developed countries have established some well-designed systems for recording the occupational accidents. For instance, the United States has developed a common system for recording the occupational injuries. This system has reported almost 3 million occupational injuries in 2010 [6] and was 2.9 million nonfatal workplace injuries and illnesses reported in 2015 [7]. In the same way, the European Union has reported an occupational injury per every 4.5 seconds [8]. These statistics show the apparent size of the losses and many unreported injuries have remained hidden [6]. Utilizing such formal record keeping systems benefit the gainer countries [2, 9].

One of the most common problems for conducting scientific researchers in the field of incident prevention is lack of the reliable and valid data and information [10]. In turn, this drawback is attributed to the weak system or even is some cases, the absence of the incident record keeping [11-12]. This is a common act to under-reporting the occupational injuries and diseases in the developing countries [6]. This disadvantage is attributed to many causes. The employer's ignorance, the negligence of employees to report the incident, the structural weakness of reporting systems, unfamiliarity to the reporting process and some other factor are examples of some routine causes for this shortcoming [10, 12].

A study identified opportunities for further development and research in the reporting and registration systems of occupational accidents [12].

However, the inadequacy of the incident recording system is the main accuser. Therefore, to improve current systems, it is needed to amend the recording forms and templates. The best system of incident record keeping belongs to the developed countries [4, 10]. In Iran, the Ministry of Labor undertakes the recording, analyzing and communicating responsibilities for the occupational injuries. After any occupational accident, this organization receives the required time-bounded information from the employers via a formal form.

Due to the importance of quality of the reported information, high frequency occurs the occupational accidents in Iran and the olden entity of the current reporting form; the present study tried to evaluate the adequacy of the present form. Resolving the found limitations and shortcomings can improve the safety management systems in general.

MATERIALS AND METHODS

In the first step, some available incident reporting systems of the industrialized countries were investigated. In this phase, the recording systems of 20 countries were surveyed through the web. A structural surfing method was employed to search the intended information. Surfing the associated websites were considered as the principal way to explore the needed contents. The extracted information from each country was transferred into a summarizing worksheet. In a similar way, the content of Iran's Social Security Form (ISSF) was abstracted. This form considered as the base form for further analysis. ISSF is the legal and formal template for accident reporting activity. All obtained information form the foreign countries that conveyed less information than to the base form were excluded from the study. As well as, rejected forms chosen between countries that have not clear labor statistics. Accordingly, five forms remained in the research path:

- The United States Log of Work-Related Injuries and Illnesses, OSHA’s Form 300 [13]
- Alaska's form of Employer report of occupational injury or illness [14]
- The UK's Reporting of Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR) [15]
- The Australian Workplace injury and disease recording standard [16]
- The Republic of South Africa Labor Department, Employer's Report of an Accident [17]

In some cases, the research team was unable to access to some national incident forms of some countries (because of the language inexplicability). Inevitably, those forms removed from the study too. In all remained forms, three contents were common:

1. The characteristics of the workplace and employer
2. The characteristics of the injured person
3. The characteristics of the accident itself and activity while occurring the harm

In the next phase, the more detailed information of each domain were extracted. To implement this phase, all three components were disintegrated into the more detailed ingredients. The scrutiny of all obtained form was done and all three elements were analyzed. For instance, the incident information section was expanded into the more explaining elements. Finally, all collected information were integrated to produce a unique form.

RESULTS

The overall structure of all forms was compared to three sections of the workplace and employer information, the injured worker information and the accident-related information (Table 1-3). The total entries of data for all forms equal 86 inputs. Twelve percent of the total collective information belonged to the workplace, employer information section, 55% was contributed to the incident information section, and the remained 33% belonged to the injured worker information section.

Table 1. The workshop information section

Items	No	Type of Recording Information in Workshop Section	USA	ALASKA	UK	AUS	RSA	IRI (ISSF)
Main Workshop Info	1	Workshop name	*		*	*	*	*
(40% of Items)	2	Workshop registered number		*			*	*
	3	Employer name		*			*	*
	4	Job activities						*
Workshop Address and Contact	5	Address and phone number	*	*	*	*	*	*
info	6	Fax and E-mail		*			*	
(30% of Items)	7	Zip Code		*	*		*	*
Main Workshop's Activity	8	Job/Industry/Business Type			*		*	
(10% of Items)								
Others	9	Form Filler Name			*			
(20% of Items)	10	How many accidents do you report before?			*			

Table 2. The Injured Person's Information Section

Items	No	Type of Recording Information in Injured person's Section	The USA	ALASKA	The UK	AUS	RSA	IRI (ISSF)
Injured person's Data	1	Name	*	*	*	*	*	*
(48% of Items)	2	Father's name						*
	3	Age			*			
	4	Insurance number						*
	5	Birthdate		*	*	*	*	*
	6	ID number		*			*	*
	7	National number					*	*
	8	Nationality						*
	9	Gender			*	*	*	*
	10	Married/Unmarried					*	*
	11	Language				*		
	12	Address, Phone Number, and Zip code		*	*		*	*
	13	Employment Status		*		*		*
	14	Does Injured people is from visitors another outside workshop?			*			
Job	15	Job title	*	*	*	*	*	*
Data	16	Shift arrangements		*		*		*
(41% of Items)	17	Job description				*		
	18	Job location						*
	19	Payment		*			*	*

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	20	Payment duration				*	
	21	Working days in week				*	
	22	Working hours in day			*		
	23	Employment hire date		*			
	24	Employment duration				*	
	25	Insurance		*			*
	26	Worker insurance number		*			
Individual	27	Does Injured people has disabilities or disorder before?				*	
Records	28	Employment Duration in current task/job			*	*	
(11% of Items)	29	Training about current task/job			*		*

Table 3. The Accident Information Section

Items	No	Type of Recording Information in Accident Section	The USA	ALASKA	The UK	AUS	RSA	IRI (ISSF)
Time and Location of	1	Injury or illness date	*		*	*	*	*
Accident	2	Injury or illness time		*	*	*	*	*
(17% of Items)	3	Injury or illness location	*	*	*	*	*	*
	4	Reporting date		*			*	
	5	Date injured or ill person leaving job					*	
	6	Time injured or ill person leaving job					*	
	7	Date of applying condition of accident	*	*				
	8	Date of returning to work		*			*	
Type and Severity of	9	Nature of injury or illness		*	*	*	*	*
Accident	10	Description of occurrence of injury or illness	*			*	*	*
(23% of Items)	11	Part of body affected		*		*		*
	12	Type of injury or illness	*					
	13	Body limbs involved injury or illness or severity			*			
	14	Is injury or illness due to traffics in public?					*	
	15	Injury or illness need rehabilitation?				*		
	16	Visual aspect of injury or illness			*		*	
	17	Fatal/Non-Fatal				*		
	18	Using first aid					*	
	19	How many employee injured in this accident?					*	
Accident Condition	20	Job/Task type while injury or illness occurrence				*	*	*
(11% of Items)	21	Employee tools while injury or illness occurrence						*
	22	Unexpected issue while injury or illness occurrence				*		
	23	Protective equipment used while injury						*
	24	Was employee action connection with job?					*	
Accident Causes	25	Cause and contributing factors		*	*		*	
(13% of Items)	26	Description of injury or illness causes	*	*	*			
	27	Cause of injury or illness						*
	28	How exactly was the injury or disease sustained?				*		
	29	Main cause of injury or illness					*	
	30	Does employee acts be cause of accident?					*	
Accident Consequence	31	Employee health status when return to work?		*				
And Treatment	32	Prediction of work days lost	*				*	
(25% of Items)	33	Prediction of work in another job	*					
	34	Outcome of injury or disease						*
	35	Treatments						*
	36	Return to work date				*		
	37	Total number of working days lost				*		
	38	The name of medical practitioner					*	
	39	Name of hospital?					*	
	40	name and address of physician			*			
	41	Injury or illness consequence	*					
	42	Preventive action proposed			*	*		
Accident	43	Form completed by?		*		*		*
Documentation	44	Accident witnesses or Aware persons					*	
And Witnesses	45	Police station name and number (if related)					*	
(11% of Items)	46	Vehicle reg number (if related)					*	
	47	Name and phone number of witnesses						*

Each section encompasses some more detailed information extracted from all selected forms. For instance, the workplace information section abstracted as:

- The basic workshop characteristics
- Address and contact numbers
- The work nature and the main activity while incident has occurred

In addition, all subsections for the incident information section were listed as:

- Time and location of the accident
- Type and severity of the accident
- The accident conditions
- Accident causation
- Information related to the witnesses and other associated documents

The injured worker's information section was summarized as:

- The personal information
- Job position and work description
- Working experience

Table 4 presents the contribution of these information for each selected country. As an example, the ISSF poses 60% of all listed entries for addressed inputs in the workplace and employer information section. About 40% of all other information entries for this section are missed. This form contained 60% of the workplace information section, 28% for accident information and 54% for injured person information.

Table 4. Comparative content of six-country injury and illness report forms information

Country	Workshop Section					Injured person's Section				Accident Section						
	Main Info	Address & Contact info	Main Activity	Others	Comparative Total	Injured person Data	Job Data	Individual Records	Comparative Total	Time & Location	Type & Severity	Condition	Causes	Consequence & Treatment	Documentation & Witnesses	Comparative Total
IR (ISSF)	20	40	-	-	60	30	17	7	54	6	6	6	2	4	4	28
RSA	30	30	10	-	50	24	17	7	48	15	13	4	6	6	6	50
AUS	10	10	-	-	20	17	14	7	38	6	11	4	2	6	2	31
UK	20	10	10	20	60	21	3	-	24	6	6	-	4	4	-	20
ALASKA	30	20	-	-	50	17	21	0	38	11	4	-	4	2	2	23
USA	10	10	-	-	20	3	3	0	9	6	4	-	2	6	-	18

Finally, Table 5 represents the total missed information inputs in the ISSF form in comparison with the other countries.

Table 5. Missing information entries in IRI ISSF form comparing with other countries

Sections	No	Items
Recording Information in Workshop Section	1	Job/Industry/Business Type
Recording Information in Injured person's Section	2	Does Injured people has disabilities or disorder before?
	3	Does Injured people has disabilities or disorder in this job/task before?
	4	Employment duration
	5	Working days in week
	6	Working hours in day
	7	Job description
Recording Information in Accident Section	8	Type of injury or illness
	9	Body limbs involved injury or illness and severity
	10	Cause and contributing factors
	11	Description of injury or illness causes
	12	Employee health status when return to work?
	13	Preventive action proposed
	14	Return to work date
	15	Total number of working days lost
	16	Injury or illness consequence (death, retirement, changing work …)
	17	Reporting date

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DISCUSSION

The ISSF includes the principal entries for recording a typical accident. The basic entries contain information associated with the time, severity, accident condition, final output and related documents characteristics. The ISSF encompasses the most its information in the injured person information section.

In addition, the main concentration of the ISSF is on the severe injuries and diseases and less attention has been paid to the milder injuries, despite their higher frequencies. Attention has been paid to the information related to the injured person section and other informational sections like the accident and workshop characteristics are neglected to some degrees. As it is clear from Table 4, ISSF demands more detailed information for the accident and location characteristics sections. Inserting the lost entries can enrich the current form. The most demanded section for improvement is the accident information section.

The accident time and location information are common among all forms, but some other important dates like time and date of filing the form, date and time of leaving workplace and return time of the injured have not been provided.

Other key information required to provide more clarification and details include the type and severity of injury, the history of similar injuries, nature of injury and the injured organ. Considering that, there are various standard systems for providing and classification of this missed information, the ISSF would be reinforced through suggested information. For instance, this form can utilize a schematic draw for determining the injured organs. Moreover, it is necessary to add some information boxes for musculoskeletal disorders symptoms [18].

The comparison showed that the accident condition section for ISSF is nearly complete. The key entries related to the working equipment, personal protective equipment, surrounding conditions and other common inputs existed [19].

In term of accident causation, there was only an entry for writing contributed causes [20]. This information mainly relies on the personal judgment. Developing a check mark for accident cause categories can facilitate the recording process. Some countries like the United States, the UK, and Alaska utilize this cause's suggestion list [13-15].

ISSF lacks some necessary information in the recording of the outcomes of accident and medical treatment information. These items that are useful for further analysis include the accident consequences and a number of lost days or away from works [21].

One of the remarkable points of Australia and the UK's form is proposing the recommendation section to prevent the similar accident reoccurrence. Producing and executing such recommendations are considered as the desirable outputs of any accident management process. Therefore, it could be suggested to provide an additional box in ISSF to presenting the recommended or remedial actions [22]. One of ISSF, Australian and South African forms strengths key point is the training records for injured worker [17, 23], but other forms have not this key point.

CONCLUSION

Here, a suggested form has been presented based on the shortages and weaknesses corrected (Table 6).

The suggested form is collective integrated information extracted the useful information from the stated countries tries to fill the present shortfalls and limitations. This study covers only five developed countries for comparison through surfing the web. More detailed work is necessary to consider other countries and entries. However, amending the found shortfalls can improve the current accident recording and reporting process.

Researchers are not expecting to present a proposal form for implementation in the industry for now. It is proposed to accident reporting form be used in a pilot study in several selected industries for reporting occupational accidents and then be legally presented for implementation. This stage is recommended for future research.

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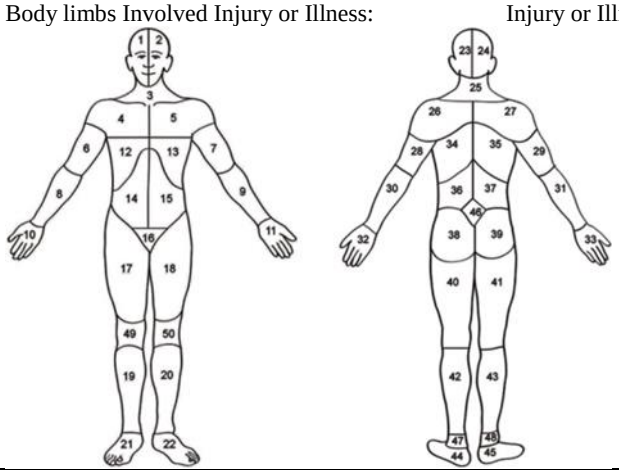
Table 6. Suggested injury and illness report form for IRI ISSF record keeping

Recommended injury and illness report form		
Workshop & Employer	Workshop Name: Job/Industry/Business Type: Address, Zip code & Contact info:	Workshop Registered Number: Employer Name:
Worker	Full Name: Birth Date: Married/Unmarred: Address, Zip code & Contact info: Does Injured person's has disabilities or disorder before? Does Injured people has disabilities or disorder in this job/task before? Training about current task/job	ID Number: Gender: Insurance Number:
Job	Job Title: Shift Arrangements: Job Description:	Job Location: Working Day/Hours: Employment Duration:
Accident	Injury or Illness Date: Injury or Illness Location: Injury or Illness Description: Body limbs Involved Injury or Illness: 	Injury or Illness Time: Nature of Injury or Illness: Type of Injury or Illness: Injury or Illness Severity:
Accident Causes	Job/Task type while injury or illness occurrence: Cause and contributing factors: Unsafe workplace conditions: Inadequate guard □ Unguarded hazard □ Safety device is defective □ Tool/equipment defective □ Workstation layout is hazardous □ Unsafe acts by people: Operating without permission □ Operating at unsafe speed □ Servicing equipment that has power to it □ Unsafe Management desitions: Employee tools while injury or illness occurrence: Protective equipment used while injury or illness occurrence:	Description of injury or illness causes:
Accident Consequence And Treatment	Outcome of injury or disease: Return to work date: Injury or illness consequence: (death, retirement, changing work …) Employee health status when return to work? Preventive action proposed:	Total number of working days lost: Treatments:
Documentation	Form completed by: Injury or Illness reporting Date & Time:	

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