

Developing occupational health and safety national indicators

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Background

Occupational health services including occupational medicine and hygiene services exist in Israel and engage in activities such as recognition of health hazards at work, recommendations for reducing health risks of the exposed worker, environmental monitoring and medical surveillance, diagnosis of occupational diseases and rehabilitation of injured workers. Nevertheless, orderly, formal collection of data and publication of indicators reflecting the actual status quo of occupational health in Israel are lacking, and only partial databases in this field exist. Such publication of indicators and relevant formal data collection exist in many western countries. The World Health Organization even established, with the cooperation of European initiatives, a task force to develop tools for effective national management of occupational health. Twenty-two European countries have developed health indicators which include such fields as preventive action and its resources, standard development, and rates of occupational morbidity and mortality and of work accidents.

Objectives

1. To define a group of indicators relating to inputs, outputs and outcomes in occupational health that is appropriate and applicable for the State of Israel.
2. To define practical ways to measure these indicators.

3. To compare existing indicators (as of 2009) to equivalent indicators in selected European countries.

Methodology

A literature survey of occupational health indicators in the world (USA, Europe, ILO) and Israel was conducted to search for appropriate indicators. A theory-based classification of indicators by content groups provided the rationale and justification for a balanced and concise set of indicators. Content validity was done employing the Action system theory and the Facet Theory methodology. By means of an interview and questionnaire, local experts rated the indicators by their importance, current availability of data and the feasibility of future data collection. A set of ideal indicators was established through this methodology and evaluated for their applicability at present and in the next few years based on existing data and feasibility for application and calculation after collection of appropriate data.

Findings

An ideal set of indicators was defined, based on the importance of each indicator for evaluating the Israeli occupational health status quo and for policy planning. These indicators did not relate to data availability and the practical feasibility of data collection at a given time. The indicators were classified in four groups: (a) Infrastructures and resources – indicators associated with national policy, regulation, standardization, enforcement and services in the field of occupational health; (b) Work conditions – indicators that serve as a measure of occupational exposures of workers to hazardous agents, health management in the organization, the extent of surveillance

administered to workplaces by medical staff and compliance officers; (c) Rehabilitation – indicators associated with medical care for injured or ill workers, profession rehabilitation, work compensation for injured employees; (d) Outcomes – indicators associated with objectively calculated rates of occupational injury and illness, such as mortality and recognized disability, and with subjective damage based on the worker's self-perception of his/her work ability relative to requirements.

National expenditure on occupational health as a fraction of the GNP, as well as the ratio of compliance officers, occupational physicians, active industrial hygienists and safety professionals per 100,000 employed persons are included in the group of infrastructure and policy indicators. The rate of exposed workers to given hazards per 1,000 employed persons and the percent of environmental monitoring and medical tests in workplaces where such tests are required by law are included in the group of work conditions and occupational exposure indicators. The percent of workers covered by compensation insurance including medical care, rehabilitation and compensation due to work inability is included in the group of rehabilitation and compensation indicators. Rates of occupational injury and illness per 100,000 employed persons are included in the group of outcomes indicators, and perceived work ability is selected as an indicator of stress at work. The evaluation of the applicability of the selected indicators in the above four classified groups based on availability of existing data and feasibility of data collection within reasonable time provided some indicators that can be applied at present and others that need further collection of data.

Conclusions

1. Based on available data, only few national indicators existing or recommended in western countries can be applied at present in Israel.
2. Additional indicators may be applied in the next few years provided organizational and financial resources are allocated for systematic and orderly cumulated data.
3. Available data suggest that less organizational, financial and professional resources in occupational health exist per employed person in Israel than in other Western countries. Since the organizational structure of the health system in these countries differs from that in Israel, however additional methods of comparison may be necessary in order to draw solid conclusions.
4. The rate of work injuries and fatal work accidents is lower in Israel than in most of the European countries and the USA.

Policy implications and recommendations

1. Israel should and can apply national indicators in the field of occupational health.
2. It is recommended to assign a leading and supervising national/governmental organization (such as the Ministry of Health and the Ministry of Industry, Trade and Labor, the Institute for Safety and Hygiene, the Bureau of Statistics) the responsibility for systematic data collection and annual publication of the national indicators.
3. It is recommended to bring the data to the public knowledge and encourage organizations in the field of occupational health to use the calculated indicators and the long-term trends they will reflect as data

for policy making in the field and improvement of the health status of workers.