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A new occupational health agenda for a new work environment

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At the beginning of the 21st century, the emergence of new forms of work organization are transforming what had become standard types of work arrangements in industrialized countries. In this new labor market environment, new firms, types of workers, and risk factors are powerfully emerging. Contrary to common belief, emergent occupational health hazards should not be approached only as "technical" or "economic" value-free problems. Instead, many of the challenges faced by occupational health policy makers are predominantly related to professional values and to the political ideologies and economic interests of key stakeholders in the decision-making process. In this paper some of the key principles leading to efficient and equitable occupational health policies in the new work environment are discussed. An alternative is also proposed for dealing with the conditions and settings needed to meet the new challenges related to establishing an effective occupational health policy.

Key terms needs, policy, research, work environment.

Work conditions have changed dramatically in the last two decades. Growth in the internationalization of investment, production and trade, the application of new technologies in computing and robotics in a large array of workplaces, and the emergence of new forms of work organization are transforming what had become standard forms of production in industrialized countries (1, 2).

These sweeping changes in the labor process call for a radical change in occupational health prevention, policies, and services. The mere assessment of occupational health hazards does not imply that proper strategies will be developed. Similarly, technical reports with exhaustive lists of strategies and actions do not necessarily mean effective prevention. Even the implementation of occupational health legislation, although necessary, is not sufficient to increase prevention at the workplace.

Before the lack of agreement between occupational health research and policy can be understood, it is crucial to analyze the key principles that govern the decision-making process in occupational health. Contrary to common belief, in many occupational health circles, emergent occupational health hazards should not be approached only as "technical" or "economic" value-free problems. Rather, many of the new challenges faced by occupational health policy are predominantly related to professional values in response to emerging changes in labor relations. The analysis of political ideology and the economic interests of key stakeholders in the decision-making process in occupational health cannot be

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avoided. Occupational health is linked more closely than ever to the fate of labormarket and social policies.

In this commentary we introduce new ideas for occupational health prevention with special emphasis on needs in the European Union. We discuss key principles and conditions needed to put into action an equitable occupational health policy.

Considerations for occupational health prevention

At the beginning of the 21st century the workplace is still a dangerous place for the majority of workers, and it can be considered a death trap for millions around the globe. Major occupational health problems not only include such traditional questions as unemployment and physical, chemical, and biological hazards, but also modern challenges like new types of flexible employment or psychosocial factors. As global social inequalities grow, workplace risks are experienced differently from region to region, industry to industry, social class to social class, gender to gender, and ethnic group to ethnic group.

Moving from unemployment to precarious employment. There is overwhelming evidence that unemployment is strongly associated with mortality, morbidity, and reduced quality of life (3). However, today's boundary between many types of flexible employment and unemployment is becoming even more blurred, and workers are experiencing a variety of nonstandard employment forms, ranging on a continuum from unemployment through underemployment to satisfactory employment. The "standard", full-time permanent employment with benefits, is being replaced with home-based work, temporary work, informal work, and other arrangements characterized by reduced job security, lower compensation, and impaired work conditions (4). Since new forms of work organization and flexible employment are likely to share some of the unfavorable characteristics of unemployment, it seems probable that they may have adverse health effects (5, 6). In the European Union, in comparison with permanent workers, employees with temporary contracts are much more exposed to poor work conditions, such as vibration, loud noise, hazardous products, or repetitive tasks (7). In addition, in comparison with full-time permanent workers, employees with temporary contracts are two times more likely to report dissatisfaction with their work (8).

Moving from safety and hygienic hazards to psychosocial factors. Traditional work-related problems are still in place in the countries and economic sectors that face the burden of industrial hazardous work. Many physical, chemical, and ergonomic hazards still form a huge threat to workers (9). However, the need to adapt to new forms of employment and new management systems in nontraditional worktime arrangements with pressure for higher productivity is not only increasing health and safety factors, but also psychosocial ones (10, 11). Stress (28%) was one of the most common work-related health problems reported in the second and third surveys of work conditions in the European Union (12). Psychosocial factors, such as new demands for higher productivity and workers' skills and loss of control over one's work, are threatening workers' physical and mental health and causing coronary heart disease, musculoskeletal disorders, depression, and sickness absenteeism, for example (13, 14).

Moving from hazardous workplaces to social inequalities in health at work. Evidence of social inequalities in health and health care and the impact of such inequalities on health outcomes is overwhelming in many industrialized countries, in which, for a range of health indicators, the lower social classes show worse health outcomes (15, 16). Work conditions play an important role in explaining the inequalities in health. The risk of occupational diseases and accidents is not equally distributed across social groups, occupations, genders, and firms. For example, the lower the occupational class, the more likely people are to experience hazardous work conditions, including physical strain, low job control, greater noise and air pollution, shift work, a monotonous job, and a hectic workpace (17, 18). It is estimated that, in Europe, about 200 million, out of 400 million, workers are without access to occupational health services, and there are large inequalities across countries (19). Interestingly, worker perceptions of the determinants of health in the workplace can concur with a social inequality approach. The content analysis of responses of nurse's assistants (one of the most hazardous jobs in the "new economy" of the United States) to a recent survey showed that low wages and lack of benefits, overwork (inadequate staffing), and humiliating relations with managers are the top workplace factors believed to affect health (20).

Moving from knowledge to policy. Although adequate knowledge on a number of traditional occupational problems is already available in the European Union, the lack of comprehensive, reliable, and comparable occupational health data (21) is still a major limitation for implementing evidence-based policy. Many occupational problems remain unknown because they are overlooked, undiagnosed, or are unreported by current information systems (22), and occupational injuries and sickness absence are not appropriately comparable across nations (23). In the emerging work environment,

a new comprehensive strategy in occupational health research, which will require profound reorientation in many research institutions, is needed. Recently, experts consulted at the European level identified psychosocial issues, ergonomics, and chemical risk factors as the top priority areas for future research (24). These general priorities of the European Union, reached through a succinct and informal process, contrast with the more-specific priorities identified by the National Occupational Research Agenda, which was developed in the United States by a broad and long consensus-building process led by the National Institute for Occupational Safety and Health (25). Thus, in spite of the valuable information generated in the last decade, data still do not provide the knowledge base needed to implement evidence-based intervention (26).

Key issues for a new occupational health agenda

A simplified standard theoretical framework for the policy cycle in occupational health includes the following phases: (i) assessment of the health of the population, (ii) assessment of potential intervention, (iii) assessment of policy choices, (iv) policy implementation, and (v) policy evaluation. This structure only reflects an idealized model of the policy process however. Before the lack of agreement between occupational health research, policy, and the needs of populations can be fully understood, it is crucial to analyze the key issues that govern the decision-making process. Priorities are not value-free, and health policy decisions are not neutral or objective choices. Rather, they are closely linked to the values, interests, and power of the actors involved in the policy process (27).

Health policy priorities (or what is important?). Thus far, occupational health needs have not become a policy priority. In most EU countries, many traditional occupational hazards and also most new ones, are waiting to be included as issues of main concern. If policy priorities express the preferred order of action, Europeans have so far focused primarily on health and safety policies that target legislation, occupational health services, education, and data collection. While such actions have produced some significant improvements, serious doubts have also been raised about their overall effectiveness (28). For example, legislative changes have not produced much improvement in small and medium-size enterprises, significant between-country differences still exist in the extent and functions of preventive services, there are limitations on current data gathering, and we still lack a consolidated agency for providing the specialized research background needed to support evidence-based policy.

In our opinion the following items have contributed to the establishment of these priorities in occupational health: (i) the need to harmonize the legislation governing occupational health across EU countries (28); (ii) the dominance of the life-style approach in the occupational health field, which converts social problems into problems of individuals and neglects the role played by organizational factors (29); (iii) a reductionist approach to occupational health in which intervention mainly focuses on the treatment of sick workers through heath care intervention rather than on preventing the occupational illnesses and injuries that affect the bulk of the workforce (30); and (iv) an artificial separation between workplace hazards, the labor market and compensation issues (31).

Issues of value judgment (or why are things important?). Occupational health action is never a technical value-free process, but, rather, it is one influenced by the political ideology, beliefs, and values of key actors, such as government officials, national governments, unions, employers, corporations, or scientific experts and agencies, among others (32). Currently, occupational health intervention is driven by two (often) opposing goals, workers' health, and economic rationality. For workers, unions, and some occupational health professionals, health comes first. For others, however, health is not the most important value — firm economics come first. This conflict of interest shapes occupational health policies. Acknowledging an underlying (political and ideological) conflict over workers' health becomes a necessary step to an understanding of the process of forming occupational health policy in a realistic manner.

A popular trend in many occupational health environments is to treat occupational health policy as mainly a financial variable. The main issues of concern — sometimes implicit — are costs and benefits to the firm, while the preferred approach to occupational health decision making is cost-benefit analysis (33). Contrary to this view, we argue that the main focus of occupational health should be worker health and the main tools should be cost-effectiveness and cost-utility analyses, in which the measurement of outcomes is expressed in terms of health. The main reasons can be summarized as follows: (i) workers have the legal right to work in a healthy and safe workplace; (ii) most occupational health hazards are avoidable and preventable, and (iii) a healthy, productive, and well-motivated workforce is one of the keys to overall socioeconomic development. The relatively low priority given to worker health is more remarkable in view of the fact that most occupational health hazards are preventable and that poor

occupational health and worker disability may cause large economic losses. Even the World Bank, an institution not suspected of being too concerned about worker health, has estimated that up to two-thirds of occupationally determined loss of disability-adjusted life years (DALY) could be prevented by occupational health and safety programs (34).

Issues of power (or who influences whom?). In articles, technical reports, or other publications on occupational health policies, little attention is paid to the political issues that shape health policy. Differences in the distribution of political and economic power have a profound influence on the work environment and health (32). Power determines key issues, such as which health regulations will be approved, what kind of work conditions will be accepted, who will be exposed to risks, what is considered acceptable risk, and which choices will be made and which will have to wait. Too often the occupational health legislation implemented by governments is considered to be the final goal in obtaining prevention, rather than it merely being an important first step with which to achieve the crucial outcome, namely, to improve the health of all workers as much as possible.

The strength of the labor movement determines a multitude of the issues that directly influence workers' health, including what information is generated about workplace hazards. It has been said that the most influential factor in the history of occupational health has probably been the emergence of class-based social movements (35). However, too often, labor leadership has focused on white male occupations and full-time permanent jobs and has neglected women, nonwhites, and new types of flexible employment, which are less likely to be unionized. Management's perceptions of worker ill health are strongly conditioned by the economic considerations related to the need to boost productivity. In fact, there is frequently opposition, from economic lobbies, against the public health goal of improving workers' health. The case of asbestos is a known example. This substance is expected to cause 500 000 cancer deaths in western Europe over the next 35 years and millions of cases worldwide (36). Since asbestos is one of the most dangerous environmental carcinogens, an immediate European and worldwide ban on the production and use of asbestos is long overdue (37).

Pressing policy challenges in tackling new occupational health needs

The health of the working population has yet to become a top priority of the European policy agenda. Traditional occupational health interventions, thought to be implemented for permanent job holders working for medium-to-large-size firms, white male employees, and targeting traditional occupational hazards, are unlikely to meet the demands of the new work environment. The main challenges lying ahead are to establish the priority of public health over economics, to improve our knowledge of contemporary occupational health needs, to implement more efficient forms of intervention, to increase worker participation in interventions, and to enforce and assess interventions properly. The following points summarize the most important policy challenges in tackling new occupational health needs:

1. *Putting workers' health first.* Occupational health policies cannot mainly be prompted by purely economic concerns as in the sine-qua-non push for cost-efficient or "win-win" intervention. Health protection is a right, and diseases can and should be prevented.

2. *Implementing action on evidence-based knowledge.* For many classical occupational diseases, greater gains in health can be made from the application of current knowledge. In such cases action rather than more knowledge is needed. Once enough information has been generated, it is socially unacceptable not to act to reduce the risks of the work environment.

3. *Expanding and improving occupational health information and data systems.* There is still a strong need to expand and improve international, national, and company health information systems.

4. *Improving research on poorly known occupational hazards and new risk factors.* The main issues to consider are the following: to study the interactions between traditional occupational hazards, and also the complex combinations of modern factors of the work environment; to study a number of "invisible" occupational issues, such as the health consequences of many women's work conditions; and to study globalization and flexible work and their broad influence on a population's health.

5. *Tackling inequalities in the workplace.* Knowledge, priorities and interventions should be adapted to each type of worker, workplace, and firm with an understanding of their socioeconomic position. Problems of women, migrants, and precarious employees, as well as those of small enterprises, deserve special attention.

6. *Increasing workers' participation.* Two decades of research on worker control and health leads to the conclusion that democracy (including workplace democracy) is an essential feature of development, including

health. Workers can be much more involved in all stages of research concerning them and recommendations for preventive measures through such mechanisms as joint labor-and-management-administered programs.

7. *Increasing the integration and quality level of occupational health services.* Occupational health services, integrated by an occupational health team, should develop a multidisciplinary task to protect workers' health and maintain their work capacity. Quality management standards should only be seen as tools to facilitate compliance with legal requirements and policies.

8. *Implementing interventions that go beyond current legislation in protecting workers' health.* Occupational health laws are merely a step with which to improve health. Unfortunately, modern legislation is permitting more flexibility in the use of the workforce, and more and more often previously illegal situations are being made legal. The labor movement, labor-based political organizations, and, especially, governments have the responsibility of defining and being accountable for occupational health policies that enforce legislation and firm compliance that leads to occupational health for all.

Concluding remarks

Occupational health policy in the European Union is at a critical stage. Although deaths, diseases and injuries caused by occupational exposure to dangerous work conditions are today major problems, many crucial issues of occupational health remain low on the European Union policy agenda. Neither most of the national authorities nor the European Union institutions are providing the right knowledge and the action needed to protect the health of all European workers. Even though we have been taught to think of progress in linear terms, the evolution of occupational health will not necessarily follow that path (35). Political events of recent years reflect the precarious position of occupational health in the health policy arena. Despite the large numbers of professionals providing services and the high costs associated with them, the institutional role of occupational health is low. Today it is easier to investigate or close a restaurant after a case of food poisoning than it is to investigate or close a factory after an outbreak of an occupation-related disease (35). The implementation of a new occupational health agenda will inevitably face up to the power issues analyzed in this discussion. We believe that adopting the elements outlined by us can help in the task of achieving a more effective and equitable occupational health policy.

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