ABSTRACT

The present paper examines the historical evolution of health impact assessments as part of the environmental assessment process. The development of a coherent public health framework must be based on the model of determinants of health, integrating toxic and infectious risks and social impacts of projects. The integration of common concepts, processes and methodologies from the area of public health and social impact assessment challenges the quantitative model approach to risk assessment. The expert-driven risk assessment is transformed into a social learning process where local knowledge and scientific input foster a dialogue among stakeholders. The issue-oriented, iterative and participative assessment process may be applied to the health impact assessment of public policies. Sustainable development with its social objectives of empowerment, participation, equity, poverty alleviation, social cohesion, population stability and institutional development is an appropriate framework for conducting health impact assessments.

ABRÉGÉ

Dans cet article, on examine l'évolution des études d'impact sur la santé dans le cadre des procédures d'évaluations environnementales. Le développement d'un cadre cohérent de santé publique doit reposer sur le modèle des déterminants de la santé et intégrer les risques sociaux et infectieux ainsi que les incidences sociales des projets. L'intégration de concepts, de procédés et de méthodologies couramment utilisés en matière de santé publique et d'évaluation des incidences sociales remet en cause le modèle quantitatif pour évaluer les risques. L'évaluation des risques faite par des experts se transforme en un processus d'apprentissage social selon lequel les connaissances locales et l'apport scientifique favorisent le dialogue entre les individus concernés. Le processus d'évaluation itératif et participatif, axé sur les enjeux, peut être appliqué aux études d'impact sur la santé concernant les politiques publiques. Le développement durable, avec ses objectifs d'autonomisation, de participation, d'équité, de réduction de la pauvreté, de cohésion sociale, de stabilité démographique et de développement institutionnel est un cadre qui convient à la réalisation d'études d'impact sur la santé.

From Concept to Practice: Including the Social Determinants of Health in Environmental Assessments

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During the last decade, the relative importance of healthy public policies as a means to attain an improvement in the overall level of population health has been increasingly emphasized.[1,2] The idea of Health Impact Assessments has emerged as a tool for influencing public policies in a rational way, as a tool for "putting the pieces together."[3-5] While the concept of formal assessments of the expected consequences of public policies on health, known as health impact assessments, is becoming more accepted in the area of public health, the application of this concept to the real world remains fraught with difficulties. The practice of health impact assessments as part of the environmental assessment process of projects is receiving increasing attention as a model for the health impact assessment of policies and programs.

Based on work done in 1988 and 1991, Frankish et al. judged the scope of health determinants studies in environmental assessments to be limited to the physical environment (ref. 4, pp. 19-21). They proposed a health impact assessment process linked to health objectives and indicators as a basis for assessing the expected consequences of public policies on health. The present text will examine recent frameworks for the integration of social determinants of health into the environmental assessment process, frameworks which are not related to a strategy of health objectives. This integration presents some challenges which may provide some useful lessons for the practice of health impact assessment of policies and programs.

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Public health in environmental assessments

The practice of environmental assessments originated with the US National Environmental Policy Act of 1969 (NEPA). It states as one of its purposes the promotion of efforts "which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man."[6] Public health concerns started to be integrated into environmental assessments at the end of the 1980s after the publication of a WHO report on the health and safety component of environmental impact assessment. This report proposed to use the risk assessment and management process in order to study the future health effects of projects.[7]

The choice of the risk assessment and management process at that time was not aimed to limit the scope of health impacts to its toxicological aspects. The authors made a pragmatic choice based on the availability of risk assessment as a specific methodology for health with the explicit statement that social determinants of health should be included in environmental assessments:

"The health component of EA should include not only disease-related effects but also all impacts which might change the well-being of neighbouring populations whether it be for better or worse. These might include psychological effects of proximity of certain types of development and improvement in health as a result of increased employment and wealth in a community." (ref. 7, p. 9)

Considerable efforts have been undertaken on an international scale to propose and promote the risk assessment-based health assessment process.[8] However, the complexity of the relationships between health risks from toxicological and microbiological sources and health protective factors of economic and social development makes it impossible to construct coherent quantitative models in order to predict the overall impact of a project on the health of a given population.[9]

Today's accumulating knowledge of the overall importance of the social determinants of health makes it increasingly imperative to integrate these aspects into the public health process of environmental assessments. While public health practitioners involved in environmental assessments have traditionally limited themselves to the physical environment as a determinant of health, social assessment practitioners have developed a framework for identifying, predicting and managing social change secondary to the planning and implementation of projects. In the last few years, innovative frameworks for public health in environmental assessments have begun to integrate social determinants of health on a conceptual level.[10-12] This integration challenges the domination of the quantitative model of risk analysis presented by Go (1988). In the following section we will examine different concepts and frameworks which do permit an integration of social impacts as determinants of health. Taking into account the great number of social determinants of health and the complexity of causal networks, we will not try to distinguish between social impacts and impacts on the social determinants of health, although we tend to use the term 'social determinants of health' when relating to the public health or population health field and the term 'social impacts' when relating to the area of social impact assessment. Both terms should be understood as a continuous concept, however, rather than as distinct entities.

Prediction, social learning and sustainable development

Predicting the consequences of a project is one of the basic characteristics of environmental assessments. By providing predictions of consequences to the decision makers, a project can be modified in order to minimize the negative and maximize the positive consequences. Unlike risk analysis, the social assessor does not try to establish quantitative predictions according to a cause/effect pattern: "Each action in an interaction sequence has, at best, only a modest predictability unless many parameters such as the relative power of participating groups remain essentially unchanged. As a result the probability of predicting a number of sequential interactive actions rapidly approaches zero." (ref. 13, pp. 16-17) Prediction of social impacts should therefore be understood as the prediction of tendencies and types of impacts. While the process of risk analysis provides probabilities of future consequences given current exposure to risk factors, the social impact assessment identifies possibilities of future consequences.

To maximize its effectiveness, social impact assessment has been conceived as an iterative process with interactions and transactions between the scientific experts (including the social assessors), the public and its different subgroups, the project proponent and government agencies. In this model of social impact assessment, public involvement becomes an integral part of the process. This iterative process can be considered a collaborative or social learning process.[14-16]

A study of social impact assessment of large-scale natural resource projects in Canada, Thailand and Australia has shown the need for and the opportunity of transforming social impact assessment, through a social learning process, into a community empowerment process, at the same time increasing community acceptance of otherwise contested projects.[17] From the social learning perspective, scientific input and local community knowledge are used to foster mutual appropriation of the project's consequences among the different stakeholders (public groups, the project proponent, the managers of the assessment process and others). From a public health point of view, the social learning perspective is a strategy of health promotion aimed at social development and collective empowerment.[18]

The International Study of the Effectiveness of Environmental Assessment has identified sustainable development as the overall goal and frame of reference for environmental assessments of projects and also policies and programs.[19] Sustainable development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[20] Through the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, sustainable development has become the internationally accepted principle for economic development, social development and environmental protection. The social objectives of sustainable development comprise empowerment, participation, equity, poverty alleviation, social cohesion, population stability and institutional development.[21]

One of the major challenges of a sustainable development perspective to social impact assessment concerns the traditionally unequal distribution between the positive consequences on a regional and national scale and the negative consequences in the local community.[22] Social equity in sustainable development is not only intergenerational, but also spatial. Local needs and aspirations should be respected and integrated into social impact assessment of projects.[23]

Sustainable development places the human being in the centre of all development and is highly coherent with the health determinants approach of public health. The health determinants of ecosystem health, economic equity and social development become the overall objectives of development. The traditional efforts of public health in favour of intersectoral action for health are transformed into collective efforts of all government agencies, NGOs and the private sector towards sustainable development of social, economic and environmental capital.[24,25]

DISCUSSION

Recent frameworks for health impact assessment as part of the environmental assessment process propose the use of social impact methodologies for the social determinants of health[12] and the integration of all determinants of health into the concept of sustainable development.[11]

Limitations in predictive accuracy, the efficiency of an empowerment perspective in optimizing the overall consequences of a project, and the social equity perspective of sustainable development favour an assessment process which is issue-oriented, iterative and participative. Both sustainable development and population health drive the need for the inclusion of the social determinants of health into the environmental assessment of projects. Lessons learned in social impact assessment provide tools for transforming the expert-driven process of risk analysis into a participative model of social learning.

This current evolution of public health in environmental assessments provides some useful lessons for the practice of health impact assessment of policies and programs. From its very origin, the environmental assessment process has been conceived as an action-forcing device.[26] By requiring an environmental impact statement from the project proponent and integrating it into the overall assessment, the decision-maker is forced to take environmental concerns into account. The experience of environmental assessments dividing the responsibilities between the proponent and a public body, even when the proponent is a public body itself, should be evaluated when implementing the health impact assessment of public policies.

The issue-oriented approach in social impact assessment is a decision-forcing device, forcing the social assessor to produce social science knowledge relevant to the decision process and favouring social development and equity. This issue-oriented or stakeholder approach permits the identification of and focus on key issues regarding the social consequences of a project. The immediate goal of social impact assessment is better decision making and management, rather than the generation of new knowledge. The encyclopedic or laundry-list type approach to social impact assessment, where investigators attempt to research almost every aspect of community life to be affected by a plan or project, has shown to produce a plethora of data with limited impact on decision making. In social impact assessment, the aim is not to produce as much data as possible, but as little data as necessary. (ref. 27, p. 123) While the spatial scale of projects may often be absent from policies and programs, the issue-oriented, iterative and participative social assessment process, conceived as a social learning process,[27] may be applied to the health impact assessment of public policies. The effectiveness of the current orientation to tie health impact assessment of policies and programs into a framework of indicators and aggregate measures should be questioned. Instead of relying on complex indicators, it may be more effective to define information needs through the stakeholder approach and gather as much of this specific information as possible or needed. Indicators are models which always reduce the complexity of reality, usually without explicitly stating limits and underlying assumptions. In environmental assessments, indicators are used for monitoring the effects after a project has been implemented. They do not contain the appropriate information for assessing prospectively the effects the project may have. Health impact assessment has been defined as "any combination of procedures or methods by which a proposed policy or program may be judged as to the effect(s) it may have on the health of a population." (ref. 4, p. 7) This definition is very close to the environmental assessment process. Therefore the information needs and uses also may be similar in both areas, relegating the use of indicators to the monitoring phase.

Under the concepts of health promotion and population health, health is no longer viewed as an aim in itself, but rather as a resource for personal and social development. Adopting this perspective, the health impact assessment of public policies should become part of the overall aim of sustainable development. Despite efforts towards intersectoral action for health, public health or population health concepts are and will be owned by the health sector, exposing the traditional call for intersectoral actions to the judgement of "health imperialism". The explicit integration of population health into the sustainable development framework will permit an exchange of values, beliefs and experiences of actors in the health sector with a variety of actors in civil society and government. Through such a dialogue, we may be able to establish a coherent and efficient process of assessing prospectively the consequences of today's actions and thus of shaping desirable futures.

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