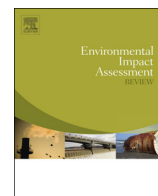




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Health impact assessment in Latin American countries: Current practice and prospects

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ABSTRACT

Background: With the objective to avoid and mitigate potential adverse health impacts of projects, programmes and policies, health impact assessment (HIA) offers an opportunity for disease prevention and health promotion. Although HIA has gained importance over the past two decades, it is unclear whether and to what extent HIA practice has been established and institutionalised in Latin America. To address this issue, the current practice and prospects of HIA in Latin America was assessed in the peer-reviewed literature and existing guidelines.

Methodology: The peer-reviewed literature was systematically searched using five electronic databases until February 2016. Studies were included on a set of pre-defined criteria. The search was carried out in English, French, Portuguese and Spanish. Additionally, a search for HIA guidelines used in Latin American countries and territories was performed by means of a Google search and on websites of government departments and institutions that may promote HIA.

Results: The search yielded 167 hits in the peer-reviewed literature of which 17 articles met inclusion criteria. Only four peer-reviewed articles described prospective HIAs and four featured a discussion of the HIA approach. The remaining nine articles presented health impact evaluations. Most studies were published only recently, after 2012 (88%). Seven HIA guideline documents were identified, two of which were country-specific (i.e. Brazil and Mexico) and the remaining five addressed HIA at the regional level.

Conclusions: This study confirmed the paucity of literature pertaining to HIA implementation, as well as HIA guidelines in Latin America. Mexico, Brazil and Cuba have the longest track record in scientific literature and guidelines on HIA. In order to better understand current barriers and limitations to practice and institutionalisation of HIA in Latin American countries, a broad discussion among policy makers, academic institutions and HIA practitioners is warranted nationally and regionally.

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1. Introduction

Over the past two decades, there was considerable development and economic growth in Latin America (Ciravegna et al., 2016). In order to avoid that future generations have to bear the hidden cost of unsustainable development, impact assessments carried out as part of feasibility analyses of projects, programmes and policies are crucial (Bos, 2006; Bond et al., 2014; Dora et al., 2015). In this regard, and supported by advances in environmental legislation and regulation, environmental impact assessment (EIA) has become common practice in Latin American countries. However, strategies to promote health and addressing health-related impacts of the economic growth warrant further scientific inquiry.

Indeed, adverse health impacts associated with development, economic growth and urbanisation have been observed in many parts of Latin America. These include respiratory diseases caused by industry and transport activities in urban centres (Bell et al., 2006; Hidalgo and Huizenga, 2013; Fajersztajn et al., 2016), an increase in sexually transmitted infections, water-borne and other communicable diseases, and increases in violence rates (Acosta Toledo, 2004; Mora, 2010; Queiroz and Motta-Veiga, 2012; Maia et al., 2013). Additionally, there are exposures to a wide range of chemical substances in contaminated sites (International Bank for Reconstruction and Development/The World Bank, Environment Unit in the Latin America and Caribbean Region, LCSEN, 2014) or areas with environmental liabilities such as the mercury burden of artisanal mining in Amazonia (Hacon et al., 2014; Braga et al., 2015). Rupture of a mining dam caused a disaster in Brazil in 2015 (Lima et al., 2015). These issues call for a systematic assessment and management of potential health impacts associated with the design, implementation and operation of projects, programmes and policies. Health impact assessment (HIA) is a promising approach to addressing these issues (Erlanger et al., 2008; Winkler et al., 2013; Drewry et al., 2016).

HIA is an inter- and trans-disciplinary approach that aims at maximising health benefits and minimising potential adverse effects on affected population groups (Rivadeneira Sicilia and Artundo Purroy, 2008). Due to HIA dissemination and capacity building efforts, a growing number of HIAs have been observed over the past two decades, particularly in some countries in Europe, North America, Australia and Asia (Morgan, 2003; Harris-Roxas and Harris, 2011; Winkler et al., 2013). Slower progress has been reported from Latin America (Harris-Roxas et al., 2012). For example, in a systematic review done by Erlanger et al. (2008), only one paper on HIA stemming from a Latin American setting was identified. However, the authors' search was restricted to literature published in English.

Beyond the peer-reviewed literature, it is important to consider the existence of guidelines pertaining to HIA, as such documents detail administrative routines with an emphasis on application and approaches that involve various stakeholders. Moreover, Hebert et al. (2012) argued that the increasing number of published articles pertaining to HIA observed globally was accompanied by an increase in the number of HIA-specific guidance documents. At the same time their systematic search for HIA guidance documents did not reveal any guideline from Latin American countries, besides the methodology for integrated environment and health assessment published by the United Nations

Environmental Program (UNEP) and the Pan American Health Organization (PAHO) in 2009 (Schutz et al., 2009). However, no attempt was made to search for guidelines published in languages other than English. Hence, despite the importance of prior research pursued by Erlanger et al. (2008) and Hebert et al. (2012), this body of work might not be representative for Latin America.

The purpose of this study was to review current practice and prospects of HIA in Latin America, as revealed in the peer-reviewed literature and existing guidelines. First, the peer-reviewed literature was systematically searched in order to provide a snapshot of the current scientific literature that specifically refers to HIA in Latin America. Secondly, technical-political HIA guidelines were searched in order to characterise administrative procedures associated with HIA use in Latin America. This study contributes to the debate about HIA and sustainable development in Latin America, highlighting the current status of HIA in this region and uncovering important aspects that either ease up or act as a barrier to broader practice.

2. Methodology

2.1. Systematic review of the peer-reviewed literature

The systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (Moher et al., 2009), without application of the items concerning meta-analysis and data quality appreciation. The filled-in PRISMA checklist is available in Supplementary File A as well as the detailed search protocol (Supplementary File B). Scholarly articles either on HIA discussion or HIA case studies were considered in this review. Papers were systematically searched in Science Direct, Scopus, Scielo, ISI Web of Knowledge and *Portal Regional da Biblioteca Virtual em Saúde* (BVS) databases from inception until February 29, 2016. The following countries and territories were considered as part of the Latin America region, and hence, included in the current review: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, French Guiana, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay and Venezuela. The search was conducted combining the name of those countries and territories with "health impact assessment" spelled in English, French, Portuguese and Spanish, as described in the Supplementary File B.

The initial dataset with retrieved documents was screened in order to identify and exclude duplicates. Next, the relevance of each hit was determined by scanning titles and abstracts and adhering to the following inclusion criteria: (i) availability of full text article; (ii) paper is not a report, monograph, thesis, book, proceeding abstract or letter to the editor; (iii) has a focus on HIA in Latin America; and (iv) if the paper was focused on a case study, it required a clear statement of whether HIA was applied to a project, policy, plan or programme. Only articles that met these criteria were included in the final dataset.

The following data were extracted: title, author(s)' affiliation(s) (i.e. academic, government staff or private sector), journal, year of publication, country or territory, language and focus of the study (i.e. HIA pertaining to a project, policy, plan or programme; or discussion on HIA implementation).

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