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Health Impact Assessment

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ICMM
International Council on Mining & Metals

Health Impact Assessment:

summary of the good practice guidance



Health impact assessment

Introduction

The traditional focus on mining and metal sites has been on employee health and well-being; however there has been increasing concern about the impacts, both positive and negative on neighbouring communities. The need for better assessment of health issues 'outside the fence' is covered in ICMM's Good Practice Guidance on Health Impact Assessment which is aimed at providing better integration of health assessment with environmental and social assessment.

What is health impact assessment?

Health impact assessment (HIA) is a systematic approach to predicting and managing the potential positive and negative health effects of all kinds of proposals on local communities and the wider society.

Mining and metals projects can affect community health and wellbeing in both positive and negative ways. They can affect health by increasing or decreasing the rates of infectious and chronic diseases and levels of mental health and wellbeing. They can also affect health indirectly through the wider social and environmental determinants of health and well-being (See box 1).

Why do it?

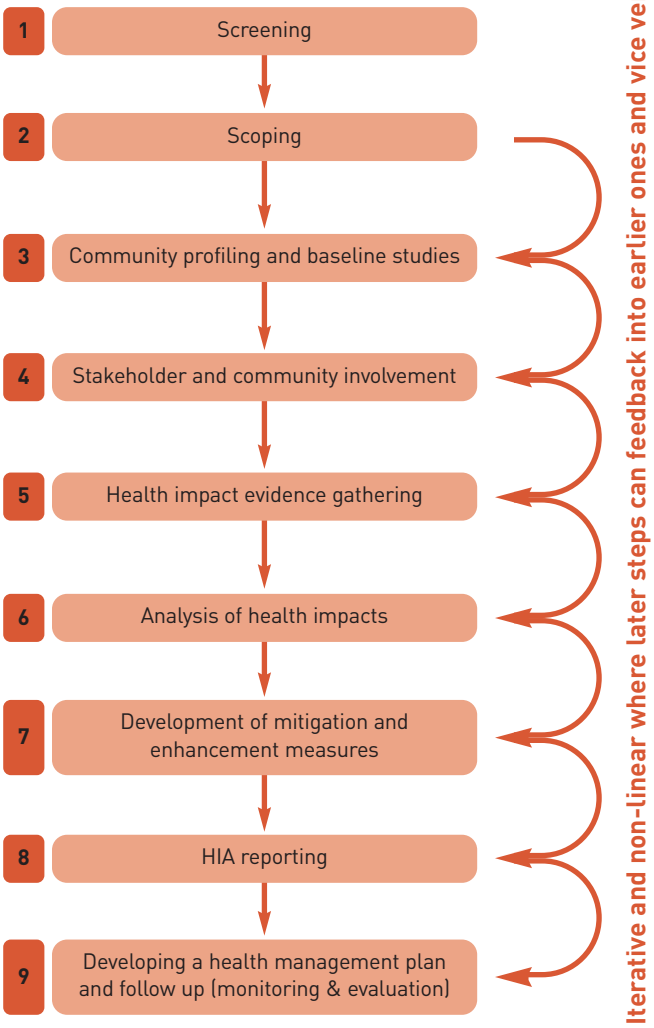
A proactive approach to preventing community ill health and maximizing community health and wellbeing can improve the financial and social performance of a mining and metals project and its parent company. Key benefits include:

- Speedier achievement of a mining and metals project's licence to operate
- Lower risk of future community-led liability and litigation
- Lower risk of damage to a project and parent company's reputation
- Access to international funding
- Reduced absenteeism and health care costs for employees from local communities
- Improved general employee morale and community relations.

How is it done?

The nine main steps of an HIA are shown in Figure 1. Through this process all the significant community health and wellbeing impacts will be identified; measures to minimize the negative and maximize the positive health impacts will be prioritized; the findings reported; and a health management plan developed to implement the recommendations of the HIA.

Figure 1: Steps in the HIA process



When should an HIA be done?

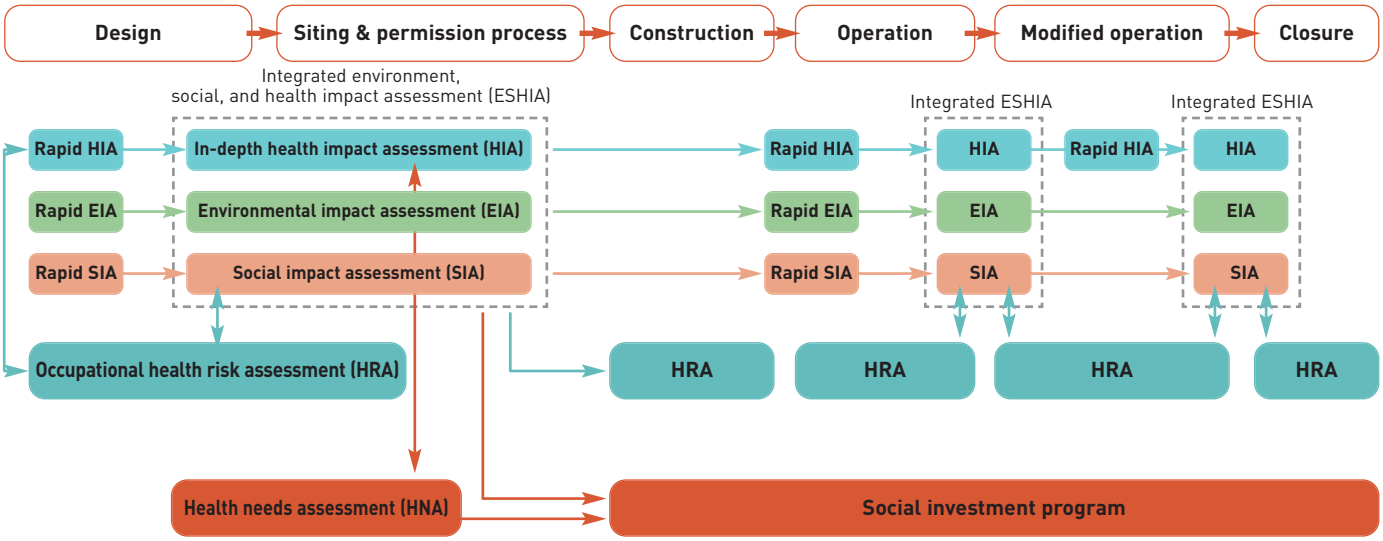
Ideally an HIA should be undertaken as early as possible in a project's design, iteratively and in parallel with project planning, with HIA results timed to inform key decisions.

At the initial concept stages of planning, when details are sketchy, an in-house rapid HIA can be useful. Rapid HIAs are 'first look' desk-based analyses that take hours, days or sometimes a few weeks to carry out. They aim to provide a quick overview of the potentially important impacts so that emerging community health issues can inform the early project design and planning process. They generally do this by undertaking a rapid community profile and review of the health impact research literature; and by using existing community feedback.

As the project plan is developed in more detail, a more formal rapid or in-depth HIA should be completed with the help of relevant specialists either as a standalone assessment or as part of an integrated environmental, social and health impact assessment (ESHIA). Figure 2 shows a timeline of when key assessments can be undertaken during the lifecycle of a mining and metals project and how they can feed into each other.

Figure 2: Project timeline showing when HIA, EIA, SIA, occupational health risk assessment (HRA) and health needs assessment (HNA) can be undertaken during a project's lifecycle.

Mining and metals project life cycle



Box 1: Determinants of health and well-being

Environment
- public & environmental health services
- civic design
- natural hazards
- waste management
- green space
- natural resources
- land use & planning
- air quality
- water quality
- soil quality
- noise
- smell

Economic conditions
- research & technological development
- job creation
- distribution of incomes
- availability and quality of training
- availability and quality of employment
- business activity

Availability and access
- voluntary & charity groups
- childcare
- community facilities
- leisure facilities
- housing
- education & training
- arts & culture
- public transport
- shops & financial services
- health & social care services

Social influences
- social contact
- social support
- community participation
- diversity
- social capital and inclusion
- peer pressure
- fear of crime & anti-social behaviour
- crime & anti-social behaviour
- fear of discrimination
- discrimination

Personal circumstances
- family relationships
- housing tenure
- housing conditions
- employment status
- working conditions
- income
- education
- personal transport

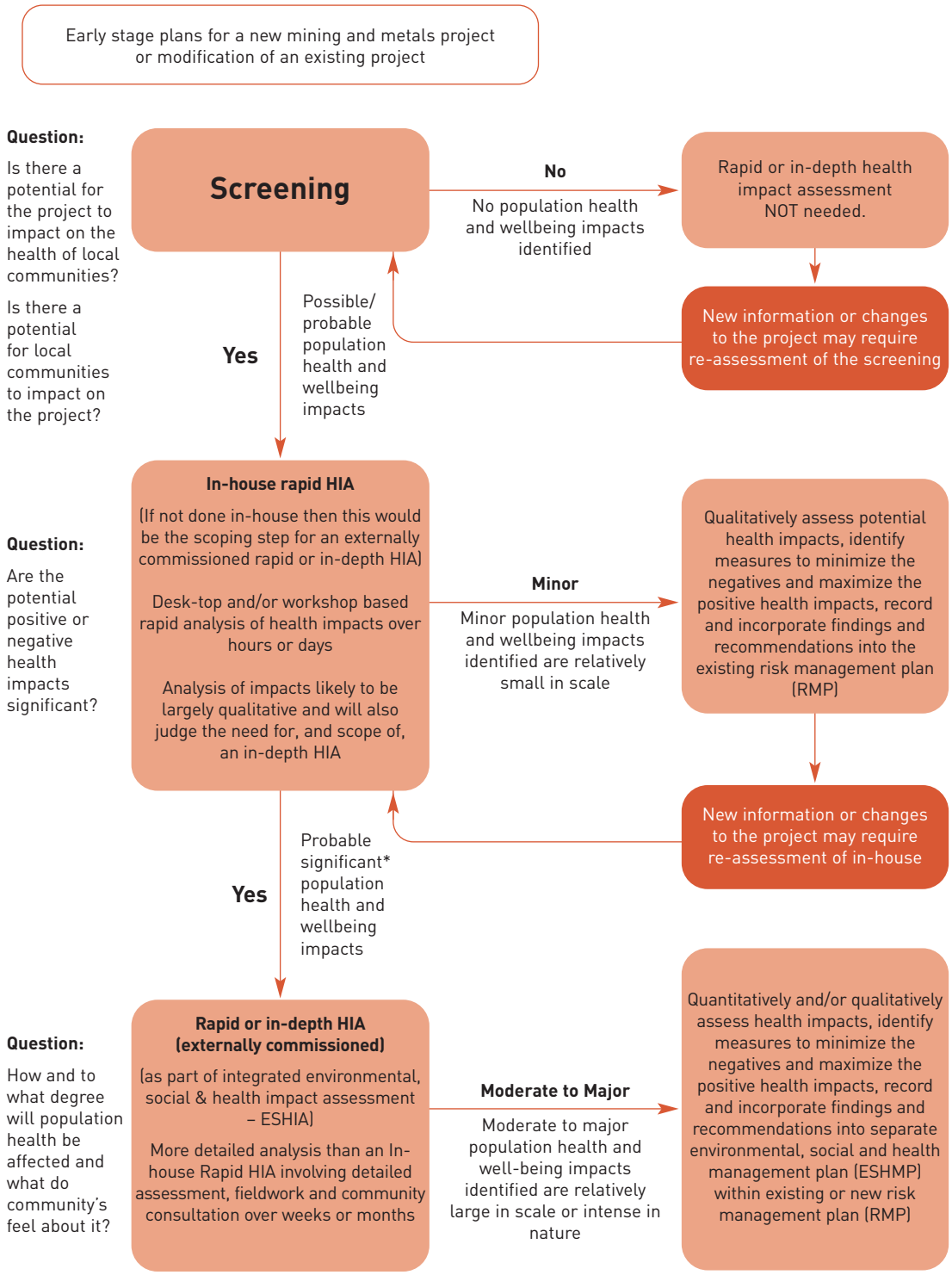
Lifestyle
- sexual behaviour
- smoking
- alcohol
- medication
- illegal substances
- diet
- leisure

Biological factors
- ethnicity
- disability
- personality
- age, gender, genes

How to decide which approach to use

Figure 3 shows a decision flow diagram outlining the decision steps, and the key questions to consider, from screening to a rapid in-house HIA and onto a more formal rapid or in-depth HIA.

Figure 3: Decision tree for health impact assessment



* Significant is defined as affecting a large number of people; causing death or serious ill health in a small number of people; and/or disproportionately affecting already vulnerable groups e.g. children and young people, women, older people, those with existing disease/disabilities and those on low incomes.

How to manage community health and well-being impacts

Mitigation and enhancement measures are best identified and developed in partnership with local stakeholders, including local community representatives, government officials, health service/public health officials and community health and development workers. The hierarchies of mitigation and enhancement should be used as a framework (see tables 1 and 2). These measures should also inform any accompanying community and social investment plan (SIP).

Table 1: The hierarchy of mitigation measures

AVOID	Design the project so that a feature that may cause a potential negative health impact is designed out e.g. reroute a road and provide a footpath for pedestrians and safe places to cross; provide safe sex options and education; and prevent stagnant pools of water forming on the site in which mosquitoes can breed.
REDUCE	**At project site (source):** This involves adding something to the basic design to abate the impact. Pollution controls fall within this category, often called "end-of-pipe" e.g. reduce emissions from chimney stacks with air filters. **In community (receptor):** Some impacts cannot be avoided or reduced at the project site. In this case, measures can be implemented off-site in the community e.g. provide safe crossing points on busy roads and reduce traffic speeds near settlements.
REMEDY	Some impacts involve unavoidable damage to a resource which needs repair or remedial treatment e.g. provide medical treatment for a chemical spillage, a water well lost during construction will need to be replaced and contaminated land will need to be remediated.
COMPENSATE	Where other mitigation approaches are not possible or fully effective, then compensation for loss, damage, and general intrusion might be appropriate. This could be 'in kind', such as planting new food crops elsewhere to replace what has been lost, or some other means such as financial payments for loss of productive farming land, or providing community facilities for loss of recreation and amenity space.

Table 2: The hierarchy of enhancement measures/health opportunities

Build in benefits for all	Design the project so features of the physical, social and economic environment that enhance or lead to a positive health impact for affected communities as a whole are included from the start e.g. health promotion programs, access to green space, hygienic and well ventilated worker accommodation, training and development for employees, minimum incomes, and social investment program for affected communities.
Affirmative action for equity	Put in place measures to ensure that disadvantaged groups reap the benefits of the project e.g. targeted health education and disease prevention programs, policies or quotas that ensure employment of local people, profit sharing with local community.
Make healthy choices the easy choice	This involves adding something to the basic design or operational policies to encourage and reward health promoting behaviour (e.g. physical activity, hand washing). Examples include subsidizing healthy food options in the canteen, providing leisure facilities that promote active recreation, providing secure bike-parking facilities etc. Reminders such as 'now wash your hands' stickers in the toilets or 'take the stairs' suggestions also serve to make the healthy choice the easy choice.
Proactive education & information	Utilize opportunities to provide information and education to enable people to make informed choices about nutrition, safe sex, etc.

How to follow up community health and well-being impacts

Monitoring is an iterative and cyclical process that leads to a re-assessment of the health management plan (HMP) or environmental, social and health management plan (ESHMP), as part of an adaptive project management process. Any monitoring program should monitor both the positive and negative community health impacts and provide an early warning system that health problems are occurring at community level. Some changes such as the prevalence of infectious diseases can be easier to monitor than project-related chronic disease and the economic and social benefits of the project that lead to positive health and well-being impacts.

In general, monitoring should be the overall responsibility of the project. However, aspects of the monitoring program may be commissioned through independent agencies to maintain the trust of local communities. The independence of the monitoring program can be further enhanced by creating a HMP or ESHMP steering or advisory group with a range of stakeholders to help oversee its effectiveness and transparency.

Alongside health impact monitoring, a public health evaluation of a project involves asking whether the project achieved its overall aims and objectives in a way that protected and enhanced the health and well-being of local communities. For mining and metals projects this means asking whether the project has been both a commercial success (made profits) as well as a community success (improved health, wealth, education levels and social relationships in local communities).

A wide ranging evaluation of a project and its potential impacts on local communities' should be undertaken at regular intervals, e.g. every three years, by an independent agency or consultancy. As with the monitoring program, a steering or advisory group made up of a range of stakeholders can enhance the credibility and effectiveness of the evaluation.

To download the Good Practice Guidance on Health Impact Assessment please visit www.icmm.com/hia or email info@icmm.com to request a hard copy.

The International Council on Mining and Metals (ICMM) was established in 2001 to act as a catalyst for performance improvement in the mining and metals industry. Today, the organization brings together 19 mining and metals companies as well as 30 national and regional mining associations and global commodity associations to address the core sustainable development challenges faced by the industry. Our vision is one of member companies working together and with others to strengthen the contribution of mining, minerals and metals to sustainable development.

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