Environmental health in industrially contaminated sites in Europe (COST Action IS1408)

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In Europe the percentage of people living close to contaminated sites is large

342,000 CSs requiring cleanup, about 5.7 CSs per 10,000 citizens estimated in Europe.

The environmental performance of European industry has improved in recent decades. However, the sector is still responsible for significant amounts of pollution to air, water and soil, as well as generation of waste (European Environment Agency, SOER 2015).
Sources of soil contamination in European contaminated sites requiring cleanup

Industrial activities including industrial waste treatment and disposal are the sectors mostly contributing to soil contamination in Europe.

Estimates has not changed from 2006 to 2011

Key contaminants are similar in the liquid and the solid matrices. The main contaminants are heavy metals, mineral oils and aromatic hydrocarbons.
The health dimension

Promotion of public health in contaminated areas is a central theme of a long-standing collaborative work between WHO and the Italian National Institute of Health carried out by sharing experiences in ad hoc workshops, conferences and working groups.

Distinct research initiatives on the health impact of contaminated sites have provided considerable pieces of evidence, however the overall impact of living in or close to CSs is still unknown, and assessments are characterised by a fragmentation of objectives and methods.
Characterizing the health impacts of industrialized areas is challenging

- Multiple sources and heterogeneous hazards (soil, air, water and food chain)
- Complex exposure scenarios
- Multiple aetiology of most diseases, including rare health outcomes like CAs and childhood tumours
- Complexity of the socioeconomic context, including occupational patterns
- Issues of environmental justice, health and social inequalities
A network of Italian institutions operating in environmental health on national and regional level developed the SENTIERI Project (Epidemiological Study of Residents in National Priority Contaminated Sites)

- Health and socioeconomic profiles of populations living in 44 NPCSs
- Characterization of emission sources
- Focus on children
Way forward

Building on these experiences, and on expert consultation promoted by WHO, the COST Action “Industrially Contaminated Sites and Health Network” (ICSHNet) has been launched in April 2015 in the Domain Individuals, Societies, Cultures and Health (COST Action IS1408)

http://www.cost.eu/COST_Actions/isch/Actions/IS1408

COST is the longest-running European framework supporting trans-national cooperation among researchers across Europe

The Action is coordinated by the Italian Institute of Health (ISS) and was proposed by the WHO Collaborating Centre for environmental health in contaminated sites in force at ISS
Industrially Contaminated Sites and Health Network (ICSHNet)

Action Primary goals

- Establish and consolidate a European network of experts and institutions, and develop a common framework for research and response on environmental health issues related to industrial contamination.

- Clarify knowledge gaps and research priorities; support collection of relevant data and information; stimulate development of harmonised methodologies; promote collaborative research initiatives, and develop guidance and resources on risk assessment, management and communication.
Definition of ICS: Action Proposal

“Areas hosting or having hosted industrial human activities which have produced or might produce, directly or indirectly (waste disposals), chemical contamination of soil, surface or ground-water, air, food-chain, resulting or being able to result in human health impacts”
The Action Network

- 120 Participants
- 32 Countries
- WHO
- EC DG JRC
- EC DG Environ

http://www.icshnet.eu/
**Action Structure and Organisation**

**WG1. Environmental and health data**  
Environment and health data in ICSs are sometimes not available, and can be sparse and not well organized. WG1 addresses this critical issue by highlighting what is needed and how data should be validated and organized to make feasible the study of the health impact of ICSs.

**WG2. Exposure assessment**  
How much of the environmental contaminations caused by industrial activities do result in relevant human exposure? WG2 identifies the best suitable methodologies and strategies to estimate the exposure in populations residing in or close to ICSs.

**The Action is articulated in four interconnected Working Groups, characterized by a multidisciplinary and multinational participation**

**WG3. Health risk and impact assessment**  
Residents in industrially contaminated sites and other stakeholders often ask whether a health risk exists and how much of the disease burden is attributable to such residency. WG3 addresses this complex issue by identifying the best available methods applicable to the variety of ICSs across Europe.

**WG4. Risk management and communication**  
How credible is the claim of the existence of a problem, either in terms of environmental contamination or health effects in ICSs? Are vulnerable groups most affected? WG4 lists criteria and methods for evaluating the credibility of the evidence; it develops guidance on risk management and risk communication on environmental health risks in ICSs.
Action main benefits

Identification of procedures for the transfer of scientific findings and evidences into the policy making process, providing Governments and local Authorities with resources and guidance to better contribute to effective communication with the local populations, media and other stakeholders, and to support public health decision-making in industrially contaminated areas.
The Action meets the Roadmap of the European Environment and Health Process led by WHO

Road Map towards the 6th Ministerial Conference on Environment and Health (2017)

38. The eight themes proposed for review in the preparatory process are organized around complex risk factors (such as air, chemicals, contaminated sites, waste or water), complex systems of direct relevance to environment and health (such as cities, energy or food) and matters of international environment and health security (such as climate change and disasters).
Environmental health issues related to industrially contaminated areas must be addressed through an intersectoral approach if we are to protect the environment and the public health in such areas at global level.

Assessing the health dimension of ICS has to be seen as part of a social negotiation, where the legitimate needs and aspirations of residents, workers, as well as investors and industry are taken into account, in a non-discriminatory process.

The international Network on Industrially Contaminated Sites and Health, currently involving public health institution of 32 countries, WHO and EC bodies, is a promising tool to identify research priorities and to promote collaborative research and surveillance initiatives in collaboration with already established networks like the International Network on Public Health & Environment Tracking (INPHET).
Symposium
The health impact of industrially contaminated sites, a global environmental health challenge

Friday 2 August, Auditorium, Teatro Studio, 14:15-15:45

Summary
The Symposium is aimed at: describing key cases from epidemiological studies around industrially contaminated sites; discussing relevance, use and validity of methodologies and study design options (exposome, GIS, residential cohorts); identifying major environmental health challenges, including inequalities, and gaps on interpretation; presenting opportunities for collaborative work at international level.
Working together to protect our environment, our health, our children

Thank you!

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