



Medical Geology as an interdisciplinary field of science linking earth systems with health

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Medical geology is a field of science that deals with the relationships between the abundance of natural elements in different geological settings, their mobility under various environmental factors, and their impacts on human and animal health from an interdisciplinary perspective. In a traditional way general, medical geology is linked with studies pertaining to exposure to excess or deficiency of trace elements and minerals, inhalation of ambient and anthropogenic mineral dusts and volcanic emissions. Exposure to geogenic contaminants, e.g. As, F, Mn, Be, Cd, Hg, Pb, Rn, Se and U and their chemical speciation have detrimental impact on human health. Their occurrence and mobility in different environmental compartments are triggered by different natural and anthropogenic processes from their source, and result in exposure can be through drinking water, food or air. Risks for human exposure to radionuclides (viz. radon, asbestos) in built environment are commonly encountered due to the unregulated use of natural geological materials for construction of buildings.

Medical geology increasingly of public interest due to a range of factors, including: the increasing expanding health impacts associated with environmental changes (e.g. climate change impacts); stringent guidelines for exposure regulations (e.g. contaminant levels in drinking water, food, and ambient air), improvements in laboratory and monitoring techniques, and rising social awareness of the relationship between contaminant exposure and human health. As a consequence, it is expected that the new discipline of medical geology will both evolve and become increasingly important in the future and involve cross-sectoral professionals.