

COAL-RELATED HEALTH ISSUES IN CHINA: PAST, PRESENT, AND FUTURE

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P.R. China is the world's oldest and largest producer and user of coal. Coal mining and coal use has left a long legacy of safety and health problems. In the past, millions of rural villages using coal in residential environments have suffered serious health problems such as arseniasis, fluorosis, selenosis, and probably mercury poisoning, in addition to lung cancer likely caused by mobilization of fine-grained quartz particles. Emissions from old coal burning power plants have contributed to country-wide air pollution resulting in widespread respiratory and related health problems. Although many of these problems have been diminished through education, medical attention, improved technology, and increased standard of living, many health issues still remain. Among these are: Black Lung disease that impacts thousands of coal miners each year; the health effects of prolonged heat exposure as coal mining extends deeper into the earth; uncontrolled coal fires mobilize toxic elements and toxic organic compounds that impact the coal miners and nearby villagers; the use of toxic trace element rich coal alternatives such as stone coal and oil shale. Future coal-related health issue may include the effects of drinking water that has been in communication with low-rank coal deposits and other long-term, low-level exposure to particulates, trace elements, organic compounds, acid gases, etc. mobilized by coal mining, transportation, combustion, and coal byproduct use and disposal. Collaboration between the geoscientist, medical community, and the coal mining industry will be critical in recognizing these more subtle health issues and devising practical solutions.

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