Future Icelandic eruptions and their potential health impacts in Europe

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The six-week eruption of Eyjafjallajökull volcano in 2010 restored Icelandic volcanoes to the UK government risk register and raised new interest in the respiratory health impacts of active volcanism affecting European populations. Concern surrounds the future possibility of a larger Icelandic ash eruption with a longer duration which might have immediate respiratory health effects and also raise questions about potential chronic health risks and the preventative measures that would need to be considered. Of prime interest is the widespread air pollution caused by fine particulate matter (PM10, PM2.5 and nano-particles), as well as sulphate aerosol, and whether the toxicity of volcanic particles is comparable to that of particles from traffic emissions in urban air. A future eruption on the scale of the Laki fissure in 1783 could potentially add sulphur dioxide to this list. This presentation will review the collaborative work with volcanologists and other scientists that is currently underway to answer these questions, including a review of the respiratory health impacts of Laki in 1783.