

Joint effects of noise and air pollution: A progress report on the Vancouver retrospective cohort study

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To investigate the joint effects of noise and air pollution on CVD, we are following an adult population of all those 45-85 years old in 1999 who have lived in the Greater Vancouver Regional District (GVRD) for 5 years (approximate N=800,000), including a sub-cohort who had a significant co-morbidity in the preceding 5 years (the 'susceptible cohort'). Residential histories and health outcomes (deaths, hospital admissions, and potentially all physician visits, pharmacy records) were linked through administrative health records. Exposure assessment for noise and air pollution were obtained by computer modeling using Cadna/A mapping software for the former, and land-use regression modeling for the latter. Disease rates in various exposure groups will be examined by traditional epidemiologic strategies. To date, the cohort has been created and air pollution level surfaces prepared. We are currently producing a noise 'map' for the metropolitan Vancouver area, the first of its scale in North America. We will present the project methodology in detail, project findings to date, as well as discuss the challenges faced and the expected outcomes of the study, as well as future opportunities for research with this new tool.