P142 **PARA-OCCUPATIONAL EXPOSURE TO PESTICIDES IN AGRICULTURAL FAMILIES: DEVELOPING MODELS FOR RISK ASSESSMENT**

Caitlin Blewett, Anne-Marie Nicol *University of British Columbia, Vancouver, Canada*

**Objectives** We aim to construct para-occupational pesticide exposure models to refine exposure estimates within farming communities. Para-occupational exposure reflects the experiences of people who may not formally work on farms, but live on or near sprayed areas or participate in unpaid farmwork. The first step of this process was a comprehensive review documenting the extent and main pathways of para-occupational exposures.

**Methods** A literature search was undertaken. Papers examining para-occupational exposure in North American farmer/farmworker families were included, as the population of interest. Environmental, biological and epidemiological data were critically examined and catalogued.

**Results** The studies examined showed increased pesticide exposure for farm children compared to non-farm children. Children who were present during spraying showed even higher levels of exposure. A smaller but similar increase was seen for farm spouses. Major pathways of exposure included workers' boots, clothes and vehicles. Proximity of the home to spraying was also a factor. Epidemiological studies showed higher rates/risks of cancer and decreased neurobehavioral performance in children whose parents were occupationally exposure to pesticides.

**Conclusions** Para-occupational pathways are complex and reflect a mixture of direct contact (inhalation of drift) and indirect exposure (residue build-up in carpets, vehicles and laundry). An attempt to delineate the magnitude of these different pathways was made by Arcury *et al* (2007) but more precise exposure data was needed. We propose stratified models for children and spouses that reflect direct and indirect sources, which will generate a more refined assessment of exposures occurring within North American farming communities.