

Lay summary - The consequences of exposure to plastic particles on children's neurodevelopment

**Deborah Dewey (PI): University of Calgary**

**Nicole Letourneau (co-PI): University of Calgary**

Plastic pollution is a Canadian and global concern. Small plastic particles called nanoplastics, are found in every environment including our food. Plastic particles are ingested, move through our body via our blood, and get deposited in organs like the brain. We do not know if prenatal or childhood exposure to these plastic particles affects children's neurodevelopment. But, we do know that exposure to plastic chemicals like bisphenol A (BPA) affects children's neurodevelopment. To find out if plastic particles are associated with children's neurodevelopment, we will measure them in the blood of pregnant women in the Alberta Pregnancy Outcomes and Nutrition (APrON) cohort and their children. We will explore associations between plastic particles, plastic chemicals, and children's cognition and behaviour. This will be one of the first studies to generate information on the associations between prenatal and childhood exposure to plastic particles and chemicals, and children's cognitive and behavioural development.