

# Using Administrative Data to Study Child Health

## Utilisation des données administratives pour étudier l'état de santé des enfants

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**T**HE MANITOBA CENTRE FOR HEALTH POLICY (MCHP) IS SUPPORTED BY THREE pillars: the Repository, the research and knowledge translation. The importance of each of these pillars was illustrated in our discussion of the usefulness of linked administrative databases for studying child health and development.

## The Repository

The collection of population-based administrative databases held at MCHP, which are referred to as the Population Health Research Data Repository (“the Repository”), offers an ideal resource for studying health and social outcomes from the prenatal period through to adolescence and young adulthood. The population research registry provides a census of all children resident in Manitoba, and the common scrambled identifier allows linkages across data sets and over time, making it possible to study the influences of predictors on later outcomes, for example: maternal prenatal smoking and infant health at birth on cognitive development at kindergarten; developmental readiness at school entry on numeracy skills in grade 3 and school engagement in grade 8; and involvement with child welfare in childhood on high school completion.

## The Research

Linkages across clinical and administrative data sets have been used to build on insights into the origins of childhood asthma that have come from survey research.

The Study of Asthma, Genes and the Environment (SAGE) is a novel, retrospective cohort study of Manitoba children born in 1995, which was created from the MCHP population research registry and uses the Repository’s longitudinal healthcare records of these children (Kozyrskyj et al. 2009). Nested within the birth cohort is a case-control study of children recruited at age 8–10 to perform clinical and home assessments and obtain biologic specimens. These children are being followed prospectively to collect data on overweight, insulin resistance and neuro-endocrine hormones (Mai et al. 2007). Among its strengths, the SAGE is a population-based cohort with detailed database records on early-life exposure to antibiotics and vaccinations. Such exposure can be linked to measurements of house dust allergens as well as immune system function and asthma gene polymorphisms in children. The SAGE has found several risk factors for childhood asthma, including antibiotic use during infancy (Kozyrskyj et al. 2007) and maternal postnatal distress (Kozyrskyj et al. 2008). Linkage with child cortisol levels has provided evidence on pathways for maternal distress (Dreger et al. 2010).

A second example of research using the Repository involves an exploratory, descriptive study focusing on the economic impact of children in care with Foetal Alcohol Spectrum Disorder (FASD) (Fuchs et al. 2009). FASD, a preventable condition resulting from prenatal alcohol exposure, is a serious social and health issue for the child welfare, healthcare and education sectors owing to its significant social and economic costs. Data from the Child and Family Services administrative database and the MCHP Repository allowed identification of five groups of children, categorized according to whether they were in or not in the care of a child welfare agency, and whether they had or did not have a diagnosis of FASD. The findings revealed that both the children diagnosed with FASD and those affected by parental alcohol misuse account for significantly higher utilization and costs in the health, education and child care sectors, compared to the general population. This study is a starting point, providing a more accurate picture of resource utilization; previous research established no meaningful link between parental alcohol misuse and the costly health and educational resources consumed each year by those children affected. This study suggests that placing greater emphasis on pri-

mary prevention would effectively expand the public policy approach to FASD in Canada, as well as create efficiencies in the allocation of scarce resources.

## Knowledge Translation

Even the highest-quality research does not automatically get translated into policy. Information has to be presented to policy makers in ways that are not only useful, but usable. Policy makers ask such questions as: How prevalent is this problem? What predicts it? What policies/programs work to improve it? What price is paid?

Manitoba's Healthy Child Committee of Cabinet provides cross-sectoral knowledge translation (KT) structures at the highest levels of government, and has commissioned MCHP deliverables regarding epidemiology, explanation and evaluation, thereby informing expenditures. MCHP adapts knowledge to the Manitoba context (via the power of local population-based data) and addresses political, structural and technical barriers using effective products (e.g., presentations) and tools (e.g., government-to-MCHP cross-appointments).

What makes MCHP KT work for children's policy in Manitoba? Relationships (respect, responsiveness, reciprocity), reputation (on both sides) and the Repository (new questions and data sets drive new KT cycles). Longitudinal linked studies and large-scale evaluations await, as we ask: Can we change the social gradient, level the playing field and raise the bar for children's developmental outcomes across the life course and across generations?

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