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For Immediate Release

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Financial barriers may be increasing the number of visits to the emergency room for kids with asthma Canadian study is the first to identify how challenges related to medication costs affect asthma control in children

Toronto, ON – A new Canadian study reveals that financial barriers – in the form of sharing asthma medication costs between insurers and families, are contributing to poor asthma control in children.

This is the first study to examine the effects of medication cost-sharing as a percentage of household income, on health outcomes in children with asthma. Findings are published in a recent edition of *Annals of Allergy, Asthma & Immunology*.

Recognizing the low rate of asthma control in Canadian children, the research team led by Dr. Wendy Ungar, Senior Scientist in Child Health Evaluative Sciences at The Hospital for Sick Children (SickKids), Associate Professor in Health Policy, Management and Evaluation at the University of Toronto and Adjunct Scientist at the Institute for Clinical Evaluative Sciences (ICES), set out to examine the factors that contributed to severe asthma attacks resulting in emergency department visits or hospitalizations in children.

The cohort study looked at data from 490 Toronto-area children with asthma. Children aged one to 18 years were enrolled between November 2000 and March 2003 and were followed for one year. The research team was particularly interested in the relationship of certain demographic factors – including socioeconomic status, health status, health resource use, symptoms and drug coverage – to asthma control.

A highly significant finding in the sub-group of drug plan holders was that for every one per cent increase in family income spent out-of-pocket on a child's asthma medications, there was a 14 per cent increase in the number of severe asthma attacks resulting in an emergency room visit or hospital admission.

"It was concerning to see that as parents faced higher out-of-pocket costs for their child's asthma medications, severe asthma attacks increased," says Ungar, who is also an AllerGen NCE investigator. "Understanding the health impact of financial barriers, in the form of deductibles and co-payments, is critical evidence in the formulation of effective drug policy as drug plans increasingly seek ways to contain costs while preserving patient health."

The research team found the following factors were significantly associated with more frequent asthma attacks requiring urgent care: i) younger age; ii) previous emergency visits; iii) nebulizer use; iv) pet ownership and v) having asthma education, but no management or action plan. Having an asthma action plan was found to significantly reduce the number of severe asthma attacks. Also, children from families with high income adequacy, a measure that combines household income with family size, had 28 per cent fewer severe asthma attacks than children with low income adequacy.

In addition to the effects above, the scientists looked at a sub-group within the data sample all of whom had drug insurance and found that:

- Girls had 26 per cent fewer exacerbations than boys,
- Children with food, drug or insect allergies had 52 per cent more severe asthma attacks than children without allergies,
- Children of families with annual insurance deductibles greater than \$90 had 95 per cent fewer exacerbations.

The study was conducted in collaboration with the Institute for Clinical Evaluative Sciences and was supported by AllerGen NCE Inc. (the Allergy, Genes and Environment Network), a member of the Networks of Centres of Excellence Canada program, the Canadian Institutes of Health Research (CIHR) and SickKids Foundation.

About The Hospital for Sick Children (SickKids)

The Hospital for Sick Children (SickKids) is recognized as one of the world's foremost paediatric health-care institutions and is Canada's leading centre dedicated to advancing children's health through the integration of patient care, research and education. Founded in 1875 and affiliated with the University of Toronto, SickKids is one of Canada's most research-intensive hospitals and has generated discoveries that have helped children globally. Its mission is to provide the best in complex and specialized family-centred care; pioneer scientific and clinical advancements; share expertise; foster an academic environment that nurtures health-care professionals; and champion an accessible, comprehensive and sustainable child health system. SickKids is proud of its vision for Healthier Children. A Better World. For more information, please visit www.sickkids.ca.

About ICES

ICES is an independent, non-profit organization that uses population-based health information to produce knowledge on a broad range of health care issues. Our unbiased evidence provides measures of health system performance, a clearer understanding of the shifting health care needs of Ontarians, and a stimulus for discussion of practical solutions to optimize scarce resources. ICES knowledge is highly regarded in Canada and abroad, and is widely used by government, hospitals, planners, and practitioners to make decisions about care delivery and to develop policy.

About AllerGen NCE Inc.

AllerGen NCE Inc., the Allergy, Genes and Environment Network, (est. 2004), is a national research network dedicated to improving the quality of life for people suffering from allergic and related immune diseases. Funded by Industry Canada through the federal Networks of Centres of Excellence (NCE) Program, the Network is hosted at McMaster University in Hamilton. Visit www.allergen-nce.ca for more information.

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