

Electronic tool has potential to improve asthma care, study finds

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A new electronic decision support tool for managing asthma has the potential to improve the quality of asthma care in primary care settings, suggests a study led by St. Michael's Hospital in Toronto, Canada.

The research, published today in the *European Respiratory Journal*, aimed to determine whether the Electronic Asthma Management System (eAMS) could help close existing gaps in [asthma care](#). The system is a first-of-its-kind evidence-based computerized [decision support tool](#).

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Dr. Gupta and his team followed 23 physicians for two years across three large family health teams, assessing care provided to 1,272 unique patients with [asthma](#). The study analyzed baseline care for one year, then integrated the eAMS into the practices and monitored care for another year to identify changes in the quality of care. The evaluation of an electronic [tool](#) builds on recent research led by Dr. Gupta that found that significant gaps persist in asthma care in these areas across the province.

With the eAMS, asthma control assessment increased from 14 per cent to 59 per cent of patients. The tool also increased the proportion of patients who received an asthma action plan from 0 to 18 per cent. This is a self-management tool that lets patients know how to adjust their medications in case their asthma flares up. Asthma control assessment and action plans have been key recommendations in asthma care guidelines for more than 20 years.

"Our research demonstrates that a carefully designed eHealth tool can effectively be used in busy primary care settings, and can improve asthma care," said Courtney Price, who was a summer student at the Li Ka Shing Knowledge Institute while the analysis was completed. "This is especially important as asthma affects 339 million people globally, is one of the most common chronic diseases in Canada, and is continuing to increase in both prevalence and cost."

The decision support tool consists of:

1. An electronic questionnaire which patients typically complete on a tablet device in the physician waiting room (providing information about their asthma);
2. An automated, computerized decision support system which then processes these data to instantly produce a set of asthma care recommendations and presents these to the clinician upon opening the patient's electronic chart; and
3. A printable asthma action plan that is auto-populated by the eAMS and given to patients by the clinician (an evidence-based tool which provides guidance on what patients should do if their asthma flares up).

Dr. Gupta and his team hope to provide access to the eAMS to all family physicians in Canada. Next steps will include integrating the system across the different electronic medical record systems in use across Canada, further studies to show its impact on patient health, and adding additional features to the tool.

"In the future, we also hope to use the valuable lessons learned in this study to design similar tools for other chronic diseases," he said.

Provided by St. Michael's Hospital

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