# How asthma education and follow-up can reduce the use of the emergency room

By Dora Lougheed, RN,
Alberta Childrens' Hospital, Calgary, Alberta

According to the BC Lung Association (2005), the World Health Organization has deemed asthma as a serious health problem affecting more than 150 million worldwide. Tough, Hessel, Green, Mitchell, Rose, Aronson, et al. (1999), suggested that asthma is the most common chronic respiratory illness on this continent and the majority of cases can be controlled. They say that the treatment of asthma in the emergency department signifies a failure of treatment and/or the control process while adding significant cost to the health care system.

The Canadian Lung Association (2005) states the most common chronic illness in Canada, asthma, affects an estimated 13 per cent of Alberta's children. The BC Lung Association (2005) says that every year in Canada there are 146,000 emergency room visits due to asthma attacks. In 2000/2001, the Calgary Health Region reported asthma as the number one cause for hospital admissions in the age group one to nine. In the same age group during 2002/2003, asthma accounted for 10.8% of admissions. During this same period, 22% of children seen in the Calgary Health Region's emergency departments had more than one emergency visit for asthma (Community Pediatric Asthma Education/Emergency referral manual, 2004). In the Calgary Health Region, asthma is the number one cause of emergency room visits and indicates poor asthma control.

## Need for change

It is well-documented that follow-up can decrease the need for repeated emergency visits. How can we, as the emergency room team, promote asthma follow-up that will deter or decrease the need for use of the emergency department by asthma patients? Referring the family and patients to the asthma clinic is one solution, but referral to asthma specialists is often not necessary for simple cases of asthma and the wait is often greater than three weeks. Follow-up is best in the week post-exacerbation (Sin, Bell, Svenson, & Man, 2002). This article will explore how the implementation of follow-up clinics, both in the community and in the family doctor's office, can impact the asthmatics' use of the emergency department, as well as give hope to patients and families that, with controlled asthma, life can be lived normally with little restrictions.

Tough et al. (1999) found that parents or caregivers take children to the emergency department for asthma treatment more readily than adults would for their own treatment. These patients will come to the emergency room with an acute exacerbation of asthma, we treat them and then discharge them home with some brief teaching, suggestions of medication changes and recommend follow-up by the family physician. Studies have shown that most of the patients do not receive the follow-up for two reasons: they have busy lives and the crisis has passed, or they are unable to get an appointment within the week post-asthma attack (Zorc, Scarfone, Li, Hong, Harmelink, Grunstein, Jalal, & Andre, 2003). These patients and their families continue on with their lives until the next exacerbation of asthma and return to the emergency department.

In one study by Dales, Schweitzer, Kerr, Gougeon, Rivington and Draper (1995), it was suggested that prompt effective treatment by the family physician could reduce emergency hospital visits. This situation would be ideal, but the study by Dales et al. and a previous U.K. study proved that their asthmatic patients were poorly controlled and under-medicated. Simply treating the patients and returning them to the physician without changing the physicians' behaviours will not improve the situation of under-medication and lack of asthma education for the patient and physician. Ideally, this situation would be effective if the doctors were better educated in the treatment of asthma, would adhere to the guidelines for the diagnosis and management of asthma, and refer complex cases to an asthmatic specialist or a pediatrician. "The Canadian consensus report on asthma management is alone in recommending that a visit to an emergency department should prompt referral to an asthma specialist" (Dales et al., 1995, p.524).

The study by Sin et al. (2002) showed that early follow-up visits after an emergency room encounter had a significant reduction, by 25%, in emergency re-admission. They also cited Naylor et al.'s study suggesting that comprehensive discharge planning and intense follow-up further decreased the chance of re-admission. Sin et al.'s study showed that only 35% of patients had a follow-up visit with a physician within 30 days of their emergency visit. The National Asthma Education and Prevention Program advocates "the importance of ongoing preventive care and the importance of follow-up visits" (Zorc et al., 2003, p. 495). This article suggests that getting an appointment with or accessing a family physician is a difficult task.

The lack of family doctors across Canada is well-known and many families depend on walk-in clinics to access normal medical care, leading to inconsistent or inadequate medical care. The College of Family Physicians of Canada (MediResource, 2005) states the shortage of family physicians is prevalent in communities of all sizes, but the greatest hurt are the rural, northern and remote areas with patient/doctor ratios dropping faster in rural areas than city areas. They also say the lack of family doctors affects the medical care and coordination of patient care, which generally leads to the likelihood of longer wait times and decreased satisfaction with the health care that patients do receive. These families come to the emergency room, are triaged by the nurse and, depending on the severity of their asthma

attack, can wait, contingent on the availability of beds, hours for treatment to start. Once treatment has started, the patient can stay for hours. Normally this would be a good opportunity for teaching but, generally, the nurse and/or respiratory technician are too busy to spend quality time with the anxious patient and family. The most opportune time for teaching is within the first week immediately following the asthma exacerbation, when the patient has improved and the crisis has passed.

## Plan for change

The Calgary Health Region and the Alberta Children's Hospital (ACH) sponsored an asthma education program project, called iCAN that was developed and trialed from 2001-2004. This project proposal was developed in response to the 1999 Asthma Accreditation Recommendations (Child Asthma Network, 2004). The major goal of the project was to provide standardization of asthma information and asthma management through education of family physicians, pharmacists, fire stations, elementary schools, daycares, and rural communities and to increase community awareness (Child Asthma Network, 2004). The outcomes of the program were promotion of follow-up education for the pediatric patient, post-emergency room visits, which could decrease emergency re-admissions, as well as increased confidence and continuity of accurate, up-to-date pediatric asthma care and information in the community and families caring for asthmatic children (Child Asthma Network, 2004).

The team developed two websites, **www.calgaryhealth.ca/ican**, the child asthma network that gives updated asthma information in both child- and adult-friendly form, and the teen website designed by teens for teens, **www.project-a.ca**. These websites remain today, as a legacy from the iCAN project, promoting asthma information and support. They also developed educational material that is still in circulation throughout the medical practices, school/daycare system, pharmacies, community health nurses, and hospital systems. The iCAN project maintains updated educational material both on the website and in the written material.

The project was so successful that it was given funding as a program as of June 2004, and has been receiving referrals since. The outcomes of the program were:

1. The asthma emergency visits decreased by 65%, and the asthma hospital stays decreased by 62%.
2. The family physicians, pharmacists, school/daycare staff, and community nurses all stated an increase in asthma knowledge.
3. The implementation of and increased access to medically accurate, consistent pediatric asthma information for patients and their families was invaluable.
4. Families felt they were more able to manage and control their child's asthma.

The program is called Community Pediatric Asthma Education Referral Service (CPAERS). The object of the program is to support patients and their families with education and spirometry, in their family doctors' and pediatricians' offices (Child Asthma Network, 2004).

The goals of the CPAERS are:

1. Facilitating a regional asthma care pathway, which incorporates both adult, pediatric and community providers, region-wide.
2. Developing standardization and dissemination of medically consistent asthma information.
3. Pilot a small number of referrals for asthma education from the emergency department.

The CPAERS emergency pilot program runs once a week with referrals from the emergency physicians, for patients who have had emergency room visits for asthma exacerbations.

The criteria for a referral from the emergency department are:

1. The child must have a diagnosis of asthma
2. Be an uncomplicated case of asthma
3. Patient should be seen within two weeks of the emergency room visit.
4. Deemed to be uncontrolled asthma by the emergency physician.

The team consists of a program manager, four half-time certified asthma educators (CAEs), and a pediatric asthma specialist who reviews the CAEs' reports and will field complex respiratory problems outside the educator's, pediatrician's, or family physician's roles.

The CAE assigned to the emergency pilot program is a half-time position with 0.2% devoted to the emergency referrals and 0.3% to the physicians' office referrals. The CAE sends all of her reports to the asthma specialist and then they are sent to the family physicians. Any concerns the CAE has, such as querying changes in medications or methods of medication delivery, are communicated to the family physician both in writing and by phone. The CAE will also suggest and arrange patients' visits with a pediatrician for asthma management for those who don't have a family physician following them.

## Conclusion

The CPAERS has enabled and empowered asthmatics and their families to take control of their health and well-being, by the mere act of placing information at their fingertips and making available a program that will give continuity of practice in the health care system and community. Usher (1989) emphasizes that as long as the medical professionals, the patients and caregivers share the power and responsibilities, this will promote health. The iCAN website is helping to re-orientate the individuals, community groups, health professionals and health service towards a health care system that contributes to the pursuit of health and well-being, and not just the prevention or curing of health problems. In 1992, the Canadian Nurses Association found that a review of 35 major commissions and Canadian health care task forces revealed three common goals: more emphasis was needed on disease prevention and health promotion, focus on community-based care alternatives, and to increase accountability among the stakeholders (Starzomski, 2002). In one year, the iCAN project showed that consistent information and management of asthma disease in pediatrics could decrease the episodes of asthma exacerbation and decrease the use of the emergency department.

In summary, the iCAN project was very innovative and thorough in its approach to dealing with the gaps in child asthma awareness and management. The project showed that proper,

consistent management, access to up-to-date asthma information, and increased knowledge and confidence in families regarding asthma management can and did decrease the need for use of emergency departments.

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## About the author

*Dora Lougheed has been nursing for 30 years! The first 10 years of her career were spent in intensive care trauma units and emergency, both teaching and rural, around B.C. In 1989 she returned to Vancouver and went to work in the B.C. Children's emergency department. In 2004 Dora moved to the Alberta Children's Hospital where she now works half time in the recovery room and picks up casual shifts in the emergency and asthma clinic. She began working on her degree in 2002, when she realized that she had a need to expand into other areas beyond bedside care, and will finish in April 2006. As Dora says, "This journey has been very interesting and enlightening for me. More enlightening than I could have ever imagined possible, and well worth the journey."*