

Title of Intervention: Population-based Pediatric Asthma Health Management Program

Intervention Strategies: Individual Education, Provider Education, Supportive Relationships

Purpose of the Intervention: To improve the quality of life for children with asthma

Population: Children with asthma, parents and health care providers

Setting: Hospitals; health care facility-based

Partners: Health care providers, health program management consultants

Intervention Description:

- Individual Education: Children and parents received an educational booklet, asthma treatment guides and seasonal and quarterly mailing dealing with asthma-related issues (Educational Touches). High-risk members received an asthma control kit that included a peak expiratory flow rate meter and an educational video.
- Provider Education: Providers were given a list of their patients, including medication and utilization history. They were provided copies of the National Heart, Lung and Blood Institute asthma treatment guidelines and given access to a Tele-Consult line. Providers with high-risk members were sent a letter regarding their patient's involvement in the program and were encouraged to provide these patients with asthma action plans. Providers also received academic National Asthma Education and Prevention Panel guidelines.
- Supportive Relationships: All high needs patients were offered intensive "Telephonic Care Management" sessions, which were carried out primarily by registered nurses and respiratory therapists.

Theory: Not mentioned

Resources Required:

- Staff/Volunteers: Providers (physicians, nurses, respiratory therapists)
- Training: Not mentioned
- Technology: Equipment to watch video
- Space: Not mentioned
- Budget: Not mentioned
- Intervention: Peak expiratory flow rate meters, educational booklets and video, treatment guides, Tele-Consult line, letters, access to patient information, mailings, provider education materials, asthma control kit
- Evaluation: Surveys

Evaluation:

- Design: Experimental
- Methods and Measures:
 - Survey of the Asthma Quality Assessment System was given to parents or caregivers to assess process measures, such as use of written action plans, knowledge about asthma triggers, attack management and confidence in the ability to self-manage asthma.
 - Asthma-specific, health-related quality of life was measured through the ITG Child Asthma Short Form. This instrument includes scales measuring daytime and nighttime asthma symptoms, functional impact of the disease, interference attributable to treatment and impact on family activities. Parents were questioned about lost work and school days related to their child's asthma.

Outcomes:

- Short Term Impact: Statistically significant improvements were observed at follow-up in the level of caregivers' understanding of asthma management information, confidence in managing their child's asthma and performance of specific preventive behaviors.

- **Long Term Impact:** A statistically significant improvement was observed at follow-up in all five quality of life domains: daytime symptoms, nighttime symptoms, functional limitations, life interrupted due to treatment and impact on family activity. The greatest improvement was detected for nighttime symptoms with the least change detected for daytime symptoms. The proportion of children classified as having mild symptoms based on frequency of reported symptoms increased. A significant reduction in the percentage of patients requiring inpatient admission or emergency room care was also observed. The percentage of children who missed one or more school days because of asthma during the previous year decreased significantly.

Maintenance: Not mentioned

Lessons Learned: A population-based pediatric asthma health management program can generate important clinical and economic benefits among children with asthma and their caregivers. This large-scale intervention produced measurable improvements in asthma-related health and lessened the burden of asthma on the family unit.

Citation(s):

Georgiou, A., D. A. Buchner, et al. (2003). "The impact of a large-scale population-based asthma management program on pediatric asthma patients and their caregivers." *Ann Allergy Asthma Immunol* 90(3): 308-15.