

## Health Policy and Air Pollution: An Application for a Pediatric Asthma Program in Southern California

Katrina Leong, FNP-C, PHN, Randall Lewis Health Policy Fellow, Azusa Pacific University  
Preceptor: Teresa Dodd-Butera, PhD, RN/DABAT

**Problem:** Based on Healthy People 2020 - majority of asthma patients in America were not receiving appropriate asthma care based on the NHLBI National Asthma Education and Prevention Program asthma guidelines (USDHHS, 2020)

- Asthma is the *most common* chronic disease of childhood (Hay et al., 2014)
- Affects > 7 million children each year in US (CDC, 2011)
  - This number continues to grow despite current treatments (CDC, 2011)
- Asthma care in US has cost \$272 million in one year (Pearson, Goates, Harrykissoon, & Miller, 2014)
- Other costs difficult to measure (Hay, Levin, Deterding, & Abzug, 2014)
  - Loss of childhood productivity due to missed school days
  - Loss of parent productivity due to lost work days

Figure 1. Despite effective treatments and interventions for asthma, rates of asthma in all ages continue to increase each year (CDC, 2011)

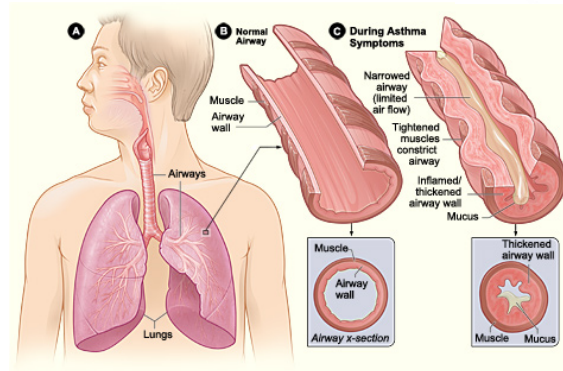
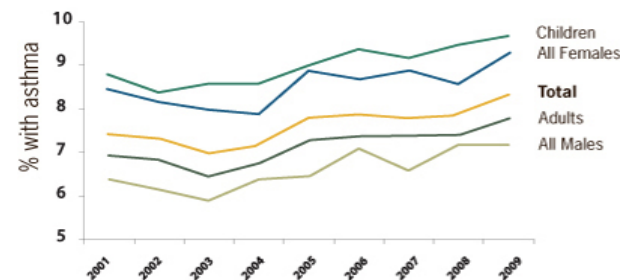


Figure 2. This image illustrates what happens in the lungs in an individual with asthma. The airways in the lungs become swollen, muscles become tight, and mucus build-up occurs. The airways are also very sensitive and easily react when you are exposed to your asthma trigger (Burns et al., 2017)

**Purpose:** The purpose of this project was to apply an evidence-based program and process for asthma management, considering environmental health policies and triggers, at a pediatric clinic in Los Angeles County. This project will address the following question: In a pediatric clinic, how does utilization of a gap and policy analysis promote evidence-based practice for asthma management over a three-month period of intervention with healthcare providers?

**Individual:** The immediate needs of the pediatric asthma patient are met to promote asthma control and improve quality of life through policy and protocol development and implementation in the clinic setting.

- The asthma policy and protocol project ensures that healthcare providers treat asthma patients based on proven and effective evidence for asthma management in order to improve asthma control and keep patients out of the hospital.

**Community:** Findings of policy and protocol are shared and presented to other providers and leaders in the community to influence and improve asthma care for asthmatic patients in neighboring communities.

- Information about common factors of asthma control such as seasonal infections and allergies, air quality, and cultural influences can benefit these neighboring asthma communities.

**Systems:** The impact of big picture issues such as respiratory infection control via vaccination during flu season or air quality concerns can be addressed from a large systems perspective.

- Change makers can carry this project forward and affect air quality and pollution policies that extend from the community to the state and national levels.

**References:**

Burns, C., Dunn, A., Brady, M., Starr, N., Blosser, C., & Garzon, D., (2017). *Pediatric Primary Care: A Handbook for Nurse Practitioners*, (5th Ed). Philadelphia: Elsevier.

Centers for Disease Control and Prevention. (2011). *Asthma in the US*. Retrieved from <https://www.cdc.gov/vitalsigns/asthma/index.html>

Hay, W. W., Levin, M. J., Deterding, R. R., & Abzug, M. J. (2014). *Current pediatric diagnosis & treatment*. New York: McGraw-Hill Medical.

Los Angeles County Department of Public Health. (2007). Population-Based Public Health Nursing Practice. Retrieved from <http://publichealth.lacounty.gov/phn/docs/Level%20of%20Care.pdf>

Pearson, W. S., Goates, S. A., Harrykissoon, S. D., & Miller, S. A. (2014). State-based Medicaid costs for pediatric asthma emergency department visits. *Preventing Chronic Disease, 11*, 1-8. doi:10.5888/pcd11.140139

U.S. Department of Health and Human Services. (2020). *Respiratory Diseases*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/respiratory-diseases/objectives>