

Community Case Study Scenario 16: Asthma/ Low Income/ Immigration

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Scenario

Sun-ja came to the United States from South Korea with her parents when she was a young girl. Her son, Jun-suh, is five years old. He has asthma that can be severe. Jun-suh will begin school this year and Sun-ja is worried about how he will be helped to control his asthma when he is away from her. She is having some trouble with medical bills as Jun-suh is covered by Medicaid, and it does not cover all his treatment. What is available at the elementary school he will attend? What is recommended for him? Are there resources for her to help with his situation?

The Health Issue

Definition

Asthma is a long-term, or chronic, lung disease that inflames and tightens a person's airways. This causes bronchial hypersensitiveness and causes the airways to become increasingly delicate and may even be swollen. When foreign particles or substances are inhaled, the bronchial tubes spasm and tighten, which causes the diameter of the airways to decrease. Without a lot of room for the air to travel through the tubes to the lungs, it causes respiration to become increasingly difficult (Cho et al., 2006). The exact cause of asthma is unknown. It is believed that it is multicausal, or caused by a multitude of different factors. These factors could include genetics, environmental factors (such as air pollution, contact with airborne allergens, exposure to viral infections, exposure to tobacco, exposure to on-the-job pollutants, etc.), other medical problems, and many more. Asthma has also been linked to exercise in some cases ("Asthma", 2013).

According to the American Lung Association if a parent has asthma the child is going to be three to six times more likely to develop asthma in childhood. Allergens can cause the airways to trigger the same response to foreign particles by tightening their airways. Some viral respiratory infections in children can also lead to an increased risk of asthma because they already have inflamed airways, and their bronchial tubes continue to be sensitive to any pathogens entering them. The last major risk factor for asthma is obesity; obesity is a risk factor because the extra fat on the body put the airways at risk for inflammation, which causes the muscles to tighten more easily and make it hard for air to pass through (American Lung Association). Researchers are still continuing to explore what exactly causes asthma; this would allow them to better prevent the condition or to create more improved treatments for it.

Asthma tightens the airways that carry air into and out of the lungs. People with asthma struggle with breathing because their airways are inflamed, and the inflammation makes the airway swollen and sensitive. Exposure to many different toxins like smoking, air pollution, and other elements that could be present in schools or workplaces can play a major role in triggering asthma attacks. These different pollutants irritate the airways more than what is in the air normally and cause bronchial spasms to occur tightening the airways and making breathing very difficult (National Institutes of Health, 2014). When this happens, the muscles tighten and this causes the airways to narrow, making it harder to get air into the lungs. During an asthma attack, the swelling in the airways caused by the inflammation constricts the airways and trigger cells in the airways to produce more mucus (National Institutes of Health, 2014). This mucus is described as being a thick, sticky liquid that causes even more difficulty breathing (“What is Asthma?” 2014).

Prevalence

Asthma is extremely prevalent nationwide, with 39.5 million people having been diagnosed in their lifetime, including 10.5 million children. That is 14 percent of the children in the United States. It is also increasing rapidly. The number of people who have asthma increased by 28 percent from 2001 to 2011. Aside from the asthma rates being extremely high, it is also very expensive. Medical expenses total 50 billion dollars per year towards asthma, loss of productivity from missed work or school totals 3.8 billion dollars per year, and premature death totals 2.1 billion dollars per year (Centers for Disease Control and Prevention, 2013).

The number of people with asthma continues to grow every year (“Asthma Statistics,” 2017). An estimated 300 million people worldwide suffer from asthma, and there are about 250,000 deaths per year worldwide. It is estimated that the number of people with asthma will

grow by more than 100 million in 2025 (“Asthma Statistics,” 2017). Every day in America, 40,000 people miss school or work due to asthma. 5,000 people visit the emergency room; 1,000 people are admitted to the hospital; and 11 people die from asthma in the United States *per day*. There are more than 4,000 deaths per year due to asthma (“Asthma Statistics,” 2014). Many of these deaths could have been prevented with the proper treatment and the correct use of an inhaler. Death rates due to asthma have increased dramatically over the past few decades; this is in large part due to worsening air conditions/pollution (“Asthma Statistics,” 2014).

Risk Factors

Viral respiratory infections can be factor in developing asthma. Wheezing caused by the common cold and the human rhinovirus (HRV) early on in childhood is a factor in the diagnosis of asthma. HRV and the common cold are the most common respiratory infections found in children which can explain the major role they play on developing asthma. Research shows that HRV can have negative effects in the lower airways contributing to the onset of asthma (Busse et al., 2011). One respiratory infection that has a great association with asthma is RSV bronchiolitis. RSV bronchiolitis and asthma in infants share many of the same symptoms such as wheezing and inflamed airways (Busse et al., 2011). Paired family history, RSV bronchiolitis increases the likelihood that a child will develop asthma (Busse et al., 2011).

Another factor associated with asthma is obesity. Multiple studies have linked obesity to asthma. Universally, children who are obese were more likely to develop asthma than their leaner peers. This might be due to the chest restriction narrowing the airways as a result of obesity (Lang, 2012). There is an association between inflammation caused by obesity and lung sensitivity to environmental triggers (Lang, 2012). Nutrition may also play a role in the link between obesity and asthma. Due to their high calories and low nutritional values, western diets

may be contributing to the link between obesity and asthma. Maternal diets also have an influence on the chances that a child develops asthma (Lang, 2012). The data shows that maternal diets that consisted of low Vitamin D and Vitamin E have an association to infants who were at risk for developing asthma (Lang, 2012).

Exposures to irritants can also trigger asthma attacks. Indoor irritants can be dust, mold, cockroaches, tobacco smoke and household pets (National Institutes of Health, 2013). These irritants can cause a flare up in people with asthma due to asthma making the airways more reactive to substances in the air (National Institutes of Health, 2013). Outdoor irritants also play a role in triggering asthma attacks. Pollution from car exhaust has been well known to irritate the airways (National Institutes of Health, 2013). It is also important for people with asthma to be aware of chemicals from items being used in day to day life. Certain chemicals are known to trigger asthma attacks as well as hives and anaphylactic shock (National Institutes of Health, 2013).

Symptoms

There are several different symptoms that are associated with asthma that aid in the diagnosis and treatment of the disease. The most common signs as wheezing and coughing, shortness of breath and the feeling of tightness in the chest (National Institutes of Health, 2013). Wheezing occurs due to a bronchospasm when the air doesn't have enough room to pass through the airways and a soft whistling sound is let out. Without enough air getting to the lungs the chest can start to feel tightened for two reasons (National Institutes of Health, 2013). The first reason is that without enough air in the lungs, they will become inflamed causing the chest to feel "tight". The second reason is that the lungs are like balloons that hold the muscles of the body up, if they are not inflated because not enough air is getting into them they cannot hold the

muscles up which could cause the feeling of tightness in the chest (Asthma Symptoms Foundation, n.d.). The final major symptom is shortness of breath, which is caused because not enough air is getting into the lungs so the person is required to inhale more frequently to get the air needed for the lungs to function. There are several other symptoms like increased heart rate, fatigue, fainting, and sweating but the ones discussed above are the most common and diagnosing asthma is done the easiest using those symptoms (Asthma Symptoms Foundation, n.d.).

The prevalence of asthma has been steadily increasing within the past decade. It has especially been increasing in the northeastern part of the United States. This could be due to the number of populated cities in northern states. Children who live in populated, urban areas are more at risk of developing asthma (Gern, 2011). This is due to the environmental factors in urban areas that may affect allergies and asthma. Exposures to these environmental factors are very crucial early on in a child's life especially because the lung and immune system are rapidly developing (Gern, 2011). This development can be negatively impacted by cities because cities are well known for pollutants such as diesel exhaust, tobacco smoke and NO₂ (Gern, 2011).

The symptoms mentioned above are a guideline for diagnosing asthma. The signs mentioned are typical of asthma cases but not all people will have these symptoms and the signs mentioned do not always lead straight to a diagnosis of asthma. According to the NIH asthma is typically diagnosed using a Lung Function Test along with assessing the medical history of the patient and doing a physical exam (National Institutes of Health, 2014). Most people receive their asthma diagnosis and treatment recommendations from their primary care doctor but there are a few reasons why an asthma specialist may be consulted. If the case of asthma is very severe and takes additional medications to improve the condition or if the asthma causes life-threatening

attacks, then the person may be referred to a specialist to ensure they are prescribed the correct medications and put on the most beneficial treatment plans (National Institutes of Health, 2014).

As mentioned before, it is important for the doctor to receive accurate information about the symptoms experienced and about any family history issues with asthma since this can substantially increase a person's likelihood for being diagnosed with asthma (National Institutes of Health, 2014). During the physical exam, the doctor can sometimes witness symptoms like wheezing and shortness of breath but since these signs can come and go in certain situations this isn't always the best way to diagnose asthma. One of the most popular tests used in diagnosing asthma is the Lung Function Test. The test is done using a spirometer. This device measures the amount of air that one can take into their lungs and how fast they can breathe in. This test helps to measure the overall lung function at a more accurate level than just listening to the lungs through a stethoscope. Physicals, family history and the Lung Function Test are all factors that play a role in diagnosing a patient with asthma; no factor alone is enough to diagnose a patient by itself. There needs to be sufficient evidence for the doctor to prescribe the medication.

Diagnosis

Asthma diagnosis is slightly different in young children because many other child respiratory diseases have similar symptoms to asthma and they can be hard to differentiate. Many children who wheeze or have trouble breathing as small children will not develop asthma past the age of six because the symptoms were most likely due to other respiratory conditions. Children are more likely to have asthma after age six if their parents had the disease and if they have allergies because the two diseases are linked. Another reason why asthma is so hard to diagnose on children under six is because it is very difficult to perform a Lung Function Test on the children because they are so young and don't understand how to properly breathe into the

spirometer and this would yield inaccurate results. When diagnosing children with asthma it is very important that the parents give accurate information about the symptoms and medical history of the children so that the doctor can give the correct diagnosis (American Lung Association, n.d.).

Prevention

There is no way to prevent asthma. However, it is possible to work to prevent asthma flare-ups. According to the Asthma and Allergy Foundation of America, it is a good idea to have an “asthma management plan,” (“Preventing Asthma Episodes and Controlling Your Asthma,” 2015). This is something a person who is affected by asthma can develop with his or her doctor. In order to control asthma, one must avoid asthma triggers. The irritants that can set off asthma symptoms are different for each person, but there are many common things. These include pollen, air pollutants, animal fur, and other allergens. This asthma plan should help a person know what triggers his or her asthma and establish ways to avoid these triggers, it should include taking asthma medication properly, tracking asthma and recognizing when it is getting worse, and finally it should help one know exactly what to do when his or her asthma is getting worse. Asthma control should prevent coughing, asthma attacks, hospitalizations, and use of quick relief medicines. In general, a good asthma control plan should help to maintain everyday activities. While physical activity can oftentimes be a trigger of asthmatic symptoms, it is important to not avoid it because activity is also critical for a healthy lifestyle (National Institutes of Health, 2014). All of these steps work to reduce the risk of having an asthma attack.

Medication

Medication can be very important to people who have asthma. The two types of asthma medication are long-term control and quick relief medication. The difference between the two

medication is that long-term medication controls the inflammation in the airways while quick relief medication relieves sudden asthma symptoms such as wheezing (National Institutes of Health, 2014). A popular long-term medication that is used is inhaled corticosteroids. This medicine is not guaranteed to prevent attacks, but it does reduce the severity and the prevalence of them. While inhaled corticosteroids are greatly beneficial, they do sometimes cause side effects such as thrush. Two other long-term medicines for asthma include Cromolyn and Omalizumab. Cromolyn is inhaled through a nebulizer. The medicine is sent to the lungs and protects from airway inflammation. Omalizumab is a medicine administered by shot which is given one to two times a month. This medicine reduces the body's reaction to asthma triggers. (National Institutes of Health, 2014)

A common quick-relief medication is Inhaled short-acting beta2-agonists. This helps with relaxing the muscles around the airways. It is important for those suffering with asthma to carry either of these medications with them in the case of a flare up. This medicine is administered using an inhaler. While inhaled short-acting beta2-agonists are administered similarly to inhaled corticosteroids, they are muscle relaxants rather than anti-inflammatories. Inhaled short-acting beta2-agonists should not be used as long-term medicine for asthma (National Institutes of Health, 2014). Finally, allergy shots and under-the-tongue tablets are also very helpful for some people suffering from asthma. This helps to reduce the amount of triggers a person has that would cause asthma attacks or flare-ups. Allergy shots are available for a larger amount of allergens, whereas the tongue tablets are only available for a few allergy triggers ("Asthma Treatment," 2014).

Cost

These treatments are proven to be effective; however, the cost of treating asthma has been increasing. The type of health care plan that one receives, whether that be a capitation plan or a fee-for-service plan, has an impact on children with asthma (J. J. Patel, Balkrishnan, & W. S, 2016). Children with fee-for-service plans have shown a higher medical adherence rate, while children with capitation based managed care plans have more hospitalizations and out-patient visits. Most state Medicaid programs use a capitation plan rather than a fee-for-service plan. Most Medicaid programs are not cost-effective due to the increase in hospital visits of those with capitation plans (J. J. Patel, Balkrishnan, & W. S, 2016).

Uncontrolled asthma has an effect on cost of care, and this is also influenced by race. People with uncontrolled asthma utilized more services and spent more money on medical expenses than those who had access to services to control their asthma (Gold et al, 2013). Non-whites also utilized more medical services and ended up paying more in medical expenses than whites. Uncontrolled asthma ultimately is more costly than controlled asthma, despite the money spent on long-term medicines (Gold et al., 2013).

Asthma is a complex disease that affects children and adults. Early on in a child's life, it is important that he or she is in an environment free of pollutants and other environmental irritants. This may be more difficult for children who live in urban areas or who come from families with a lower income. The best way to control asthma is to reduce the amount of environmental irritants that one is exposed to and to talk to a doctor that will help manage one's asthma.

The Impact of Culture

Health Disparities

The prevalence of asthma differs among different races. Black children with asthma visit the emergency department for asthma 5 times more than white children. Similar to black children, Native American children and multiracial children also have higher rates of asthma than white children (CDC, n.d.). Asthma is also more severe in minority children than it is in white children. Minority children experience higher rates of hospitalization and even death (NIH, 2012). For example, black children are 4 times more likely to die from an asthma attack than their white counterparts (CDC, n.d.). This health disparity can be linked to cultural factors as well as economic factors (NIH, 2012).

Asthma Prevalence in Asian Americans

In 2014, 621,000 Asian Americans were found to have asthma. While Asian Americans are found to have a lower prevalence of asthma than whites, they have a 40 percent higher death rate from the disease. Because of the small demographic, there is not a large amount of data about Asian Americans concerning asthma, so that may have an impact on the association. One association that can be made is the prevalence of asthma in lower income families (U.S. Department of Health and Human Services, 2016).

Adult immigrants had a higher rate of asthma than non-immigrants. Children immigrants actually showed a lower prevalence of asthma than non-immigrants; however, Ontario-born children with South Asian parents were shown to have a higher prevalence of asthma. Exposure to certain environmental factors in one's earlier life could put them at a higher risk for asthma in the future (Benchimol et al., 2015).

Environmental Factors

Indoor environmental factors have been found to be associated with wheezing illness and asthma in South Korean children. In 3,810 South Korean children aged 6-7 years old, parental history of allergic disease, living on the basement floor, and living in housing that had been remodeled within the last twelve months significantly increased the risk of wheezing illness. Parental history of allergic disease, male sex and a positive skin prick test (SPT), are associated with asthma. Sex and parental history of allergic diseases are larger risk factors for asthma than exposure to modifiable indoor environmental factors; however, they are still both associated with a general increase in asthma risk (Chae, Y., Hahm, M., Ahn, K., Kim, J., Kim, W., Lee, S., & ... Kwon, H., n.d).

The socioeconomic status of immigrant populations may have an effect on asthma conditions. While immigrant populations may have a lower prevalence of asthma than non-immigrants, these rates may not reflect the subpopulations' asthma prevalence. First-generation immigrants to the United States are shown to have a lower prevalence of asthma than non-immigrants; however, those who are born in the United States to immigrant parents have a higher prevalence of asthma (Corlin & Brugge, 2014). This has to do with environmental exposures. Such environmental exposures are a product of living conditions and proximity to sources of air pollution, both of which immigrants are more likely to be affected by. Living conditions can mean mold and air quality factors. In general, immigrants experience lower socioeconomic status, and thus low housing quality and exposure to poor environmental conditions, all of which contribute to the prevalence of asthma (Corlin & Brugge, 2014).

Types of Treatment Used

Korean immigrants who had asthma coped with the illness and compared what strategies they developed for dealing with dyspnea, or a difficulty in breathing, with other cultures. The study found that the coping strategies of Korean immigrants were similar to other ethnic groups; however, Koreans tended to incorporate elements of Asian medical practices and herbs. Doctors need help to better understand their culture and beliefs so that they can better provide for Korean immigrants dealing with asthma (Soo Kyung Park, Nancy A. Stotts, Marilyn K. Douglas, DorAnne Donesky-Cuenco, Virginia Carrieri-Kohlman, 2013).

There are multiple barriers that Korean culture presents when looking at treatment for illnesses. For example, the way Korean-American utilize health care in the US also has an influence on their health outcomes. Korean-American immigrants tend not to trust the US healthcare system when compared to the Korean healthcare system. The two main factors that contribute to this distrust is the unfamiliar health care system and language and cultural barriers. Older Koreans in the US do not trust patented medicine; therefore, they rely on family and friends for medical advice and often diagnose themselves (Stanford, n.d.). Elders also seek oriental medicine. This often treats symptoms but does not cure the illness (Stanford, n.d.). With inpatient care, the availability of Korean-speaking health professionals is often scarce. The lack of Korean food in hospitals also provides a set of barriers because many Korean elders are more familiar with eating traditional Korean dishes (Stanford, n.d.).

Diet

Nutrition is a contributing factor to the onset of asthma. Many Koreans pickle their food (eating food that has been packed in salt), causing the food to contain excess amounts of salt (Stanford, n.d.). This high salt intake leads to hypertension and heart disease. There is a

relationship between dietary factors and asthma in the Korean population. In one study done by Kim et.al, researchers found that adults with asthma consumed fewer amounts of kimchi (a Korean side dish) and fish but had a higher cereal intake than those without asthma. Researchers also found a significant inverse relationship between kimchi consumption and the prevalence of asthma for people consuming 1 to 2 servings, 2 to 3 servings, and ≥ 3 servings, relative to those consuming less than 1 serving (Kim, H., Oh, S., Kang, M., Kim, K., Kim, Y., & Chang, N., 2014).

Socioeconomic Status

Socioeconomic status is also a factor in the health disparity among children with asthma. Children whose family income falls below the poverty line tend to have higher rates of asthma (CDC, n.d.). Risk factors for family with lower incomes are housing quality, stress and access to medical care (CDC, n.d.). Poverty status can be affected by race/ethnicity, education, cost barriers and unemployment. People experiencing poverty may also be living in lower than average housing which can lead to exposure of environmental allergens and irritants (NIH, 2012).

Access to Medical Care and Insurance

Koreans immigrating to the US have a particularly more difficult time accessing medical care. This is due to a lack of English literacy and the complicated system that the US has for its healthcare (Stanford, n.d.). Because of this, many Korean immigrants are left uninsured. Also, many older Korean immigrants do not qualify for Medicare. This places a huge burden on their adult children (Stanford, n.d.). Taking this into consideration, Korean immigrants in the United States have one of the highest income levels and typically experience less poverty compared to other immigrant populations.

Korean immigrants are usually found to have lower health insurance rates which can also serve as a problem for them receiving care for asthma treatments. Most Koreans had insurance provided to them by the government while they lived in Korea, so they didn't have to worry about spending money on insurance before they moved to America. Because many Korean immigrants are found to be low income this is an expense that many families cannot afford (Jang, 2016). Therefore, many immigrant Korean families are forced to pay out of pocket for their medical expenses, which might cause them to hesitate before going to the doctor to receive help for an illness. Many immigrants who cannot afford health insurance and who do not qualify for Medicaid turned to Hanbang, or herbal medicine, as their choice of treatment for different illnesses. Absence of insurance was not the only factor that led to Korean immigrants using Hanbang, it could also be influenced by their culture. They found that immigrants were more likely to use Hanbang because they felt more comfortable with this practice than using western medicine (Jang, 2016). These reasons serve as barriers to Korean immigrants receiving the correct medical care they need especially in the cases of asthma that need to be treated with medicine only doctors can prescribe.

Overall, asthma in South Korean immigrant populations can be contributed to several different factors, including but not limited to: dietary factors, socioeconomic status, genetics, living arrangements, environmental conditions, coping strategies, and many more. These cultural factors play a major role in disease risk and healthcare, and the greater knowledge base that there is, the more that can be done for this population to work to overcome all types of health diversity.

What is Needed and Who is Impacted

What is Needed

In the case, there is Sun-ja, a woman who came to the United States from South Korea with her parents when she was a young girl. She has a five-year-old son named Jun-suh. He has asthma that can be severe. Jun-suh will begin school this year and Sun-ja is worried about how he will be helped to control his asthma when he is away from her. Jun-suh is covered by Medicaid, but Sun-ja is still having some trouble with medical bills because not all his treatment is covered. There are many aspects that influence if Jun-suh can get the care that he needs to manage his asthma. The biggest component of Jun-suh receiving the right help is what resources are available in the community for their family to use. These resources should be sensitive to the fact the Sun-ja is a low-income immigrant and her son is on Medicaid. There are several factors that all must work together to provide him with the right treatment, medication and knowledge about asthma for the family.

There are many people that are affected by Jun-suh's asthma condition and the resources they need vary. One of the most important things the family needs is both a house and a school that are free of triggers. Because Jun-suh will spend a majority of his time at school and at his home, it is important that these environments are healthy for him to be in. The next most important resource is Medicaid. It is critical that Jun-suh is covered by some type of insurance so that his mother will be able to pay their medical bills. Because he is a child and his mother is under the poverty level he qualifies for Medicaid, which will give him access to the doctors and medicine that he needs to manage his condition.

Who is Impacted

Jun-suh

Immediately affected by the medical problem is Jun-suh. Jun-suh is affected by his asthma in a medical way, in a financial way, and in a mental and social way. Because his asthma is severe, he could have an intense asthma attack at any point in time. The effect on his health is one of the biggest issues, children living with asthma need to be a lot more careful of the environments they are in. For this reason, Jun-suh and those around him need to be constantly aware of the allergens around him, how he is breathing, and controlling or limiting certain exposures that could be damaging to his breathing. He needs to be aware of his triggers at an early age and start to learn about dealing with them. Jun-suh is impacted in a financial way because if his mom cannot afford treatment even after Medicaid, then Jun-suh will be left without all the necessary treatment and care, which could have devastating effects on his health. Even though Jun-suh is young, many children see and experience the effects of financial stress on their family. They can tell when their parents are worried about things and the stress can sometimes impact the children.

Finally, Jun-suh is impacted both mentally and socially. Even at the age of five, he understands that he has a condition that is different from other children around him. He might not be able to run as hard or as long, or play on the playground with his friends without having an asthma attack. This could then impact him socially, feeling isolated or even left out. If Jun-suh must go to the school nurse to be able to receive treatment, he may also feel a sense of embarrassment in front of his classmates. Mentally, this could affect him. It could create a lack of desire to go out and do things healthy children his age might do. He might be depressed, or

confused why he is different. These factors play a huge role in what Jun-suh needs for his condition.

Sun-ja

Jun-suh will need a variety of resources to aid in controlling his asthma. Primarily, he will need a mother who is both mentally and physically supportive of him, and who is also financially able to give him the treatment he needs. He is going to need a mother to provide housing for him that does not have asthma triggers such as mold or cockroaches. He will also need a school that is either aware of his condition and has someone on staff that can help him during any episode, or a school nurse that is readily available and prepared/knowledgeable on what to do for Jun-suh. His mother needs to have the means to be able to find good doctors, pharmacies and ways to reduce his asthma triggers. This could create a lot of stress for her and she may need help from family and friends. Sun-ja will need to thoroughly understand the disease, the triggers involved, treatments and ways to make Jun-suh's life easier. Sun-ja is going to need education on her son's asthma and education on the care he should be receiving. She is going to need the school's cooperation and willingness to work with her on the appropriate plan of action for any of his asthma needs during school hours.

Jun-suh's mother is heavily impacted in multiple ways by her son's medical condition. She is impacted in a financial sense. Sun-ja is trying to pay for Jun-suh's medical bills, but might still have a difficult time even after Medicaid. She might have to give up other necessities to be able to afford her son's treatment, or she will need to work with doctors and the pharmacy to devise a plan that works for her and her annual income. Just as dealing with Jun-suh's condition places a lot of stress on her, so will this financial burden so she needs to have resources that will help her deal with the financial stress of having a child with asthma. Medicaid will be an

important resource for Sun-ja. She needs to be able to apply for Medicaid for her son so that they can afford their medical bills and pharmacy prescriptions.

She is also impacted mentally. The mental burden of constantly having to worry if your child is going to have an asthma attack, maybe when you aren't around to care for him, is extremely heavy. This could cause a lot of stress, and create an even greater sense of not having control over his medical condition. All the other burdens that Sun-ja faces will affect her mental health and stress levels. Therefore, it will be important to find resources that will combat the other burdens Sun-ja will face to be able to lower her levels of stress. Sun-ja may need a support group for both herself and her son. Because the stress of having to worry about having a child with asthma and having to financially afford it is so much, it is likely that she will need a group to speak with who are going through similar issues.

School

Not only are Jun-suh and Sun-ja impacted, though. The school is another entity that is affected. The school is affected because they must ensure that they have someone on staff always that can care for Jun-suh if he needs it. They must also work with the mother and make sure there are no medication changes or increased/decreased doses. The school is also impacted because they will need to inform Jun-suh's teachers of his condition and make sure they know what to do in the event of an emergency. The teachers might also have to limit Jun-suh's physical activity or outdoor recess time if his asthma is exercise induced or brought on by being outside. They need to be aware of his triggers and what children with asthma can be exposed to. Exercise is likely the second most common trigger of asthma (Hughes, 2014). When physical activity or exercise is a trigger for asthma, cough and dyspnea are the most common complaints. Jun-suh's teachers

will need to pay special attention to him during recess or physical activities and closely monitor him throughout.

The school will need to have the resources to be able to create an allergen free environment for Jun-suh. This is probably not very realistic since many schools do not have the resources and funds to be able to build new schools that do not have mold and have good air filters. Some of the initiatives that schools are currently putting in place to create healthier environments for children with asthma will be discussed later. This would be the best resource for the schools to try to reduce the number of triggers that children with asthma will encounter. If the number of asthma attacks lessens due to a healthier environment, then the schools will not have to use as many of their resources on hiring nurses to help control the children's asthma.

Community Resources

Athens Neighborhood Health Center

Affordable medical care for Jun-suh is a primary worry of Sun-ja's. The Athens Neighborhood Health Center is a very important and helpful resource for Sun-ja to use in order to obtain affordable treatment for Jun-suh's asthma treatment. The Athens Neighborhood Health Center focuses on providing high quality healthcare to the uninsured and underinsured in the Athens-Clarke County area. They do this by providing the medically under-served with a comfortable place for them to obtain affordable care (Athens Neighborhood Health Center).

The Athens Neighborhood Health Center was started in 1971 by three Athens women who saw the city's need for a health center that was affordable, high-quality, and welcoming. This has remained the core mission of the center, and it has flourished to three separate facilities spread throughout East, West, and Central Athens. The Athens Neighborhood Health Center became a Federally Qualified Health Center (FQHC) in 2012. The Athens Neighborhood Health

Center has many services to cater to every age (Athens Neighborhood Health Center). In Jun-suh's case, there are multiple pediatricians and pediatric nurses on staff who Jun-suh could visit for regular check-ups and emergency visits. The many services that the health center provides also has a benefit for Sun-ja. There are many General Practitioners and Nurse Practitioners who could attend to Sun-ja while Jun-suh is being seen. Because of the many offices that Athens Neighborhood Health Center has, it should be easy for Sun-ja to access at health center, especially in the case of an asthma emergency (Athens Neighborhood Health Center).

The Athens Neighborhood Health Center aims to make medical care affordable. There is an entire program at the health center to counsel families on their medical expenses. The Health Care Financial Counseling and Insurance program counsels and assists with enrollment for the Affordable Care Act, Medicare, Medicaid, and CHIP. These counselors are certified and licensed Health Plan Navigators. In addition to Medicaid counseling, Athens Neighborhood Health Center accepts patients who are covered by Medicaid (Athens Neighborhood Health Center). It is rare that health centers for the underinsured will accept Medicaid, and even more for these health centers to provide financial counseling for those with Medicaid. This is a very useful resource that Sun-ja could take advantage of in order to gain assistance in decreasing her medical expenses (Athens Neighborhood Health Center).

Another financial resource at the Athens Neighborhood Health Center would be their pharmacy on site. The pharmacy has a new medication program that provides medications on site for much cheaper than at a normal pharmacy. This is done through the Federal 340B Medication Program. This would be extremely convenient and have a great financial advantage for Sun-ja when buying inhalers and other medications for Jun-suh and herself. Other services

that the Athens Neighborhood Health Center has on site are immunizations, laboratory services, and mental health services (Athens Neighborhood Health Center).

The Athens Neighborhood Health Center is currently accepting new patients. This is an immense resource that Sun-ja and Jun-suh both could easily take advantage of. The health center is easy to access, because of the three facilities located around Athens. It accepts patients who are eligible for Medicaid, and provides financial counseling for those who are still struggling with medical expenses, making it extremely affordable. The Athens Neighborhood Health Center is also essentially a “one-stop shop” for all services needed by Jun-suh, with pediatrics, pharmacy, and laboratory all under the same roof. The Athens Neighborhood Health Center would greatly assist in treating Jun-suh’s asthma (Athens Neighborhood Health Center).

Medicaid

Medicaid is a program that is administered by the states and is federally funded to provide health insurance to those who cannot afford it themselves. Sun-ja lives below the poverty level which means that Jun-suh is eligible for Medicaid because he is also a child. There are some out of pocket costs that are associated with Medicaid plans and they are determined by the different states (Medicaid.gov, n.d.). Even though there may be a fee associated, Medicaid still serves as an important resource in allowing Jun-suh to receive the medical care that he needs. Because Sun-juh has a low-income she most likely would not have enough money to purchase insurance and therefore her son would not be able to go see the doctor. With Medicaid, Sun-ja will have the ability to take her son to the doctor for him to receive the care and treatment he needs.

Medicaid creates barriers to where Jun-suh can receive care and where he can get his medication from. Medicaid reimbursement rates are usually much lower than other insurances

because Medicaid is such a large organization that they can negotiate lower rates. Many doctors will not take patients because of these low reimbursement rates because then the doctor must pay the difference and they lose money. Even though many doctors do not accept Medicaid there are a large number that will be in network for Jun-suh. Medicaid covers almost all pediatricians and pediatricians can prescribe and treat asthma.

Medicaid usually covers all emergency room visits as well as primary care services with a low out of pocket cost to the person. Many Medicaid plans in most states also cover most pharmacy medications which is also very helpful because asthma is usually treated by several different inhalers and medications. According to the government's website for Medicaid, a very high amount of children in Georgia were able to see a primary care physician, or pediatrician, without any trouble (Medicaid.gov, n.d.). This is important for Jun-suh to have access to this care since the only way his mother is able to pay for his medical bills is through Medicaid.

It is important to note that there are some places in Athens where the family can go to receive help in applying for Medicaid benefits. The Division of Family and Children Services (DFCS) is located in Athens and they provide help both in their office and over the phone for those trying to applying for Medicaid. On their website they also have the steps as well as all the necessary forms that are needed to be eligible for Medicaid benefits. Applying can be a lengthy process and requires several different forms of documentation but DFCS can help to make it easier for families applying for benefits.

The Elementary School- J.J. Harris Elementary Charter School

Having the correct medication on hand is incredibly important, but if the medication is not used properly, it becomes a waste. The elementary school is a very important resource when it comes to education on how to correctly use inhalers, as well as ensuring care is available at

any time during school hours. J.J. Harris elementary school has a school nurse that is available to assist with any asthma need, and this includes teaching children who have asthma how to correctly use their inhaler, and how and when to take the correct medication.

Another resource the school offers is parent-teacher conferences or parent-nurse conferences. This is crucial for both parent and teacher/nurse to understand what each expects of each other and to make sure the utmost care is being provided. This conference also helps the mother feel safe and secure when her child is away from her. It can be very worrisome for a parent of a child with a medical condition to give up or relinquish care for seven hours out of the day, five days a week. This can cause tremendous stress, so having these conferences that unite both parties helps to alleviate some of this stress and to comfort the parent.

Finally, the elementary school would keep a file on Jun-suh with all of his medical needs and with the names of his medications, as well as his physicians, the pharmacy, and his mother. This type of organization within the school is incredibly important for the safety of their students. In the event of any episode or any asthma attack, this file is readily accessible by J.J. Harris Elementary School's nurse and can help assist in what the protocol is for Jun-suh and for notifying his mother.

Because Jun-suh will be spending 7 hours of his day at the elementary school, it is vital that the school be a sound, successful resource for both Jun-suh and his mother. They need proper care and reassurance, and the school is there to provide them with adequate resources that can manage Jun-suh's asthma.

Athens Transit

Many families experiencing low income in Georgia do not have the ability to afford cars and therefore must use public transportation. Athens Transit is a service that is very important for

Sun-ja to have access to in order to get her son to his doctor's appointments and to be able to pick up his medicine.

Athens Transit currently has over 28 different bus routes that span the city of Athens. If Sun-ja has proof of Jun-suh's age then he is able to ride the buses for free, this is very beneficial for Sun-ja so that she does not have to spend any extra money for her son to ride the bus. Sun-ja just has to pay for herself, which for one ride is \$1.75 or she can get a pass that may make her costs less in the long run. Athens Transit runs from 6am-10pm, which covers the hours that most doctors' offices are open. The bus system provides Sun-ja a way to get her son to the doctor without having to worry about how she is going to get there or get home.

St. Mary's Support Group

Another resource that is available in the community for Sun-ja and her son is the St. Mary's support group for asthma. This resource is not the most practical due to the time, but it is still an option if Sun-ja ever finds time to go. The support group is called "Better Breathers Club" and is offered at St. Mary's hospital on the third Thursday of every month and 2pm. Since the meetings are during the week and the time of a day where a person may be working this may be a barrier for Sun-ja to be able to get to the meetings because she is the one that would benefit from these educational meetings. The meetings are completely free which is beneficial for Sun-ja because she does not have a lot of money especially after Juh-suh's medical bills and pharmacy expenses. Meetings tend to last around an hour, which gives an adequate amount of time to educate the people with the condition as well as the caregivers on methods for coping and allow for the group to make connections with each other.

The sessions are led by a trained facilitator and the purpose is to provide a space where people with asthma and other breathing disorders can come together to discuss their experiences,

learn from each other and provide encouragement and support to one another. This is a place that would be more beneficial for Sun-ja to be able to learn about her son's condition and make connections that will allow her to ask questions and provide the best care for her son. Other people in the meetings may have advice on other mechanisms to handle asthma from first-hand experience and they may have information that Sun-ja would not have received from the doctor or pharmacist. One major problem that Sun-ja may encounter is the time that the support group regularly meets. The support group meets at 2pm which is often when people are at work. Because she has a low income, we can assume that Sn-ja works full time and does not have the time to join the support group. She also may have to worry about finding transportation to St. Mary's if she does not have a car (St. Mary's Athens).

Sustainability

Economic sustainability is the ability of an economy to support a defined level of economic production indefinitely. Since the Great Recession in 2008, this is the world's biggest apparent problem, which is going to negatively impact progress on environmental sustainability, which then has a toppling effect in overall health. ("Economic Sustainability," n.d.). A large part of economic sustainability is economic justice. Economic justice encompasses the principles in designing our economic institutions. These principles explain how each person earns a living, enters into contracts, exchanges goods and services with others and otherwise produces an independent material foundation for his or her economic sustenance ("Defining Economic Justice and Social Justice," n.d.).

The Earth's resources and the wealth generated by economic activity must be distributed in a way that is centered on health care being equitable to all. At the principle peak of healthcare, prevention should be given the upmost importance and ultimately translates to not only a

healthier nation, but also a more economically sustainable nation. According to the CDC, for every one-dollar spent on national and state-level asthma control programs, \$71 in asthma-related expenditures is saved (“An Investment in America’s Health,” 2013). These programs help Americans understand, manage, and gain control over their asthma. These programs are also working with school systems and families at large to prevent asthma attacks and to be ready for any type of situation. The economic impact of prevention for asthma has tremendous positive effects. If more money or more emphasis could be placed on this type of program, a large reduction in medical care or emergency care expenditures could be seen.

Another economically sustainable solution for asthma, specifically for those with a lower socioeconomic status, is to increase the amount of mixed-income housing neighborhoods. Gentrification, or the process of improving an area so that it caters to and conforms to a more upper class and expensive taste, is something that has become increasingly more prevalent. However, this is severely harming the lower-middle class families because they are left without affordable housing and must then resort to living in areas that are usually much less safe for their health and well-being. Often times, these families are forced into areas that have many negative environmental determinants that will lead to their health deteriorating. This could include things such as: poor air conditions, unsafe toxin exposure, more airborne allergens, and occupational exposures in that area. One economically sustainable solution to this issue would be rather than using gentrification, we could use government funding to target for mixed-income projects and housing. The neighborhood could still have many luxury homes, but it could also have a mix of public housing and lower income housing, as well. Typically, these neighborhoods have about 1/3 of its composition as people who can pay the market rate, 1/3 of people who need some subsidy, and then 1/3 of people with extremely low incomes that qualify for public housing

(Holtzman, 2016). This would create a more balanced environment and one that is also taken care of better.

These mixed-income neighborhoods work well and correlate to those with a lower socioeconomic status having better health because of it. First, these neighborhoods are typically newer and built to be an improved and enhanced house to live in. This would include having superior ventilation systems that allow for better breathing. Those suffering from asthma could really benefit from a house that is built with their condition in mind, one that makes it easier on them and reduces some of the burden of their circumstance. Children who relocated to income-diverse neighborhoods have fewer health problems; findings showed that children that moved to low and lower poverty neighborhoods experienced fewer episodes of asthma (Levy, McDade, & Dumlao, 2010). Another reason this correlates to better health is because they are building the community around the neighborhood in a way that works for those of all incomes. Benefits associated with place include gaining access to more improved services and a safer environment. This would mean that school systems are going to be more advanced than those in neighborhoods with solely low-income people. The school systems will have a more highly trained staff that is equipped to deal with all types of adversity and diversity. And finally, these areas will have a better chance of finding sufficient employment. This can greatly benefit those in lower income brackets and will give them a means to get up on their feet and be able to find a job in an environment that isn't as harsh. All of these different things factor into overall health and can especially assist those suffering from asthma.

Environmental factors have shown to play a large part in the onset of asthmatic symptoms. Many pathways could be taken to decrease Jun-suh's exposure to harmful aspects of the environment. Many of the proposed programs to reduce environmental triggers include

multicomponent interventions. One of the most effective interventions that could be put forth is improving housing quality. Air quality in one's home has proven to have a large impact on the health of residents. There are many solutions for reducing Jun-suh's exposure to harmful environmental factors, but much has to be done in the Athens area to put these plans into action.

A review done by The Community Guide studied an in depth, multicomponent approach to reducing exposures to environmental triggers. This study targeted 20 children with asthma. The researchers did home visits with the children where they educated them on asthma knowledge, skills, and attitudes, improved asthma management behavior, and improved clinical interactions (Crocker et al., 2011). Those conducting the trial also intervened through environmental assessment and remediation. In the 20 children studied, the results of the intervention showed that the number of days of asthma symptoms reduced by 0.8 days per 2 weeks, or 21 days per year. The interventions also showed to increase Quality of Life of the children. This study showed that a multicomponent approach involving both education and altering of surroundings is effective in reducing asthma symptoms (Crocker et al., 2011).

The Harvard School of Public Health started an initiative in Boston to improve the health of public housing residents. This initiative was a direct response to the high prevalence of asthma among those experiencing low income. This plan, while started by the Harvard School of Public Health, joined forces with other Schools of Public Health in the Boston area along with the Committee for Boston Public Housing and the Boston Public Health Commission (Healthy Public Housing Initiative). The project was funded primarily through the U.S. Department of Housing and Urban Development's Healthy Homes Initiative and the Kellogg Foundation, as well as through other private companies. The asthma related benefits to this housing initiative included new air filters, heavy duty cleaning, new mattresses, integrated pest management, and

family education on controlling asthma triggers. This plan to reduce harmful environmental exposures also was a multicomponent approach, with both education and remediation (Healthy Public Housing Initiative). The initiative showed many results. The previous pest controls were not effective and many of the children were shown to have sensitivity to cockroaches which triggered their asthma. The new pest control that was initiated was more comprehensive and effective. The mattresses were shown to reduce allergy burden also. Overall, the residents Quality of Life increased (Healthy Public Housing Initiative).

While the previously mentioned approaches were effective, they fixed the pre-existing homes rather than build new ones. Breathe-Easy homes are built for low-income families who are suffering from asthma. In the study “The Breathe-Easy Home: The Impact of Asthma-Friendly Home Construction on Clinical Outcomes and Trigger Exposure,” researchers studied the effectiveness of Breathe-Easy homes (Takaro, Krieger, Song, Sharify, & Beaudet, 2011). Researchers examined two groups of children, one group of which moved into Breathe-Easy housing, the other of which received other asthma-control intervention. Both groups were educated on in-home asthma care. The Breathe-Easy homes featured moisture-reduction systems, enhanced ventilation systems, and materials that minimized dust and off-gassing (Takaro et al., 2011). The results showed that the group who moved into Breathe-Easy housing went from 8.4 days symptom-free to 12.4 days symptom-free per 2 weeks. Their asthma related clinical visits also decreased by more than half. Overall, Breathe-Easy homes were proven to be largely effective in decreasing environmental triggers in asthmatic children (Takaro et al., 2011).

The Athens area has few resources for Jun-suh and his family to take advantage on in order to reduce harmful environmental triggers. One program in the Athens area is ReNew Athens. The aim of the program is to create affordable housing for low-income families through

renovating their existing homes in an environmentally conscious way (ReNew Athens). ReNew relies on volunteers and community partnership. The residents of these homes are provided a unique opportunity to become owners of their homes. This Athens program, while on the right track, could expand to incorporate asthma-reducing aspects in their renovations. If they were to receive more governmental and private funding, ReNew could also start to build Breathe-Easy homes (ReNew Athens).

Framework/Policies

There are many different policies and system changes that are currently being put into place to help those who are currently living with asthma. On their website, the American Lung Association discusses many ways in which they are using different policies and plans to try to increase the quality of life of those living with asthma and decrease the rates of people who are developing asthma. The American Lung Association (ALA) is working to change and implement policies in the many different aspects that affect the lives of those living with asthma. Some of the most important places that the American Lung Association is working with are the schools, workplaces, Medicaid, public policies and overall education about asthma (American Lung Association). Public policy and large-scale changes are critical in helping people live successfully with asthma and in preventing another person from developing asthma.

The Asthma Friendly Schools Initiative is a program that was developed by the CDC and works to provide the framework for schools to be able to manage and control the disease in the schools. The ALA explains that controlling asthma in schools is so important because the chronic condition can affect how many days' children can attend school and how well they can pay attention while they are in class (American Lung Association). In a school environment, there many different factors that can either benefit and worsen a child's asthma. The Asthma

Friendly Schools Initiative works to create strategies to get children more active in schools, to provide cleaner air and safer school environments, to educate children and parents on asthma and to provide mental health services for those with asthma. This plan is not in place in every city nor in every school. There is a large gap in where the initiative is implemented and for children to be able to go to school in an asthma-friendly environment there needs to be a policy in place for a standard that schools must meet to help children with asthma. Since many of the people affected by asthma are children and children spend majority of their time in school it is critical to make these environments safe.

Many people who develop asthma as children also continue to live with the disease into adulthood, therefore worksites are also places where safe asthma practices must be used. There needs to be standards that are set in place that worksites must abide by to both lessen the risk factors for asthma and to help those who have the disease cope. Many jobs that have high risk factors for asthma are low income jobs, so the workers are at much higher risk for developing asthma and not having access to the correct care to control it. Having standards in place for keeping the air healthy is one of the most important things per the ALA (Fung et al, 2014). Even though employers are required to provide safe work conditions for their workers there needs to be policies in place that force the companies to abide by these standards and enforce the healthy work environment.

School and work are places that many people spend majority of their time, but many Americans also spend a large amount of time at home. As discussed earlier, asthma prevalence is higher among minority populations and one major reason for there is their home environment. Many minority populations are low income and therefore live in low income neighborhoods. Power plants, trash disposal sites and other things that can worsen asthma tend to be placed

beside low income neighborhoods (Fung et al, 2014). There needs to be policies put in place that eliminate the ability of cities to be able to discriminate against low income neighborhoods because they are usually the ones who will not speak up. It is not far to put the minority populations at risk for worsened asthma conditions because of their socioeconomic status. There needs to be a change to the current system of where to place toxic industry plants and guidelines set around how close they can be to any neighborhood in general, especially the low-income neighborhoods that are discriminated against (Clarke et al, 2014).

Many Americans are diagnosed with asthma either by their primary care physician or by an allergist. It is important that when a person is told they have asthma, that they are also educated on all the different aspects of the disease. There needs to be programs implemented in every city that gives everyone with asthma access to education and support groups for the disease. Since so many American's are affected with asthma it is critical that they understand how to manage and live with the condition (American Lung Association). Many cities have some programs in place but there needs to be some sort of system that ensures that patients will receive the education they need and not just when it is convenient for the doctors or hospitals.

The last thing that has a large effect on people getting the right care for asthma is health insurance. According to the ALA website, they are currently trying to work with Medicaid to try to expand the amount of coverage that Americans can receive for asthma treatment. There are standards that are set up by the National Asthma Education and Prevention Program (NAEPP) that provides the structure for how one should effectively control their asthma. ALA is currently working to develop policies that will allow people with asthma who have Medicaid, which as discussed earlier is a large number due to the increased asthma in low-income populations, to receive more treatment that is covered (American Lung Association). Health insurance is a major

barrier to people receiving treatment for asthma and if there was policies in place that helped mandate the coverage of necessary costs it would allow for more people to cope with their asthma (Standford, n.d.).

There are many places that have good ideas about how asthma should be reduced but it can be very expensive and time consuming. People tend to lean towards keeping procedures the same as what they have been, like placing power plants next to low-income neighborhoods. Unless policies are put in place to force people to think about how to create healthier environments for those living with asthma than many people will continue to be affected by the disease each year.

Programs and Interventions

Research shows that there is a disproportionate disparity in asthma outcomes among children who belong to low-income households and children who belong to a racial minority group in the US (Cloutier et al., 2005). This disparity is seen because of the over-utilization of emergency visits due asthma attacks (Gutierrez et al., 2012). Emergency visits can sometimes be the only access to medical care that a child that comes from a low-income household may see. Emergency visits do a poor job of providing a child with the proper education to manage their asthma and do not adequately address their needs. To fix this disparity, these groups need to gain access to healthcare by having programs and interventions that can successfully manage their asthma well as having people who will advocates for their needs.

Asthma management programs are an effective method for decreasing the prevalence of asthma among low-income children and minority children. An example of an asthma management program is the Breathe Easy program that was used in a study. The Breathe Easy program focused on diagnosing asthma in children age 6 to 18, identifying the severity of the

asthma, prescribe therapy based on the severity of asthma and develop a treatment plan with the child's family. The program works with parents and clinicians to survey the severity of asthma in the child.

The Breathe Easy program study compared data between children who had Medicaid at Hartford hospital and children who were enrolled in the program. Results showed that the rate of hospitalization of children for those enrolled in the program decreased by 35% (Cloutier et al., 2005). This decrease was sustained for three years. There was also a 27% decrease of emergency visits among participants and a 25% increase in inhaled corticosteroid use (Cloutier et al., 2005).

This program addressed the disparity in asthma care by decreasing the amount of medical care a child will need. This is important because low-income families may not have insurance and therefore they cannot cover a multitude of doctor visits. The Breathe easy program successfully changed the children's behavior by focusing on the asthma diagnosis and the asthma severity (Cloutier et al., 2005). Asthma management programs are important such as the Breathe Easy program are important because they focus on preventative measure that can drive down healthcare cost for the child's family. If a child knows how to handle his or her asthma, then the amount of doctor visits decrease and the amount of burden placed on the family decreases as well. Also, because the results of the Breathe Easy program were consistent for three years, this proves that program like this can be sustainable.

Having community health workers has also been an intervention method that decreases the amount of emergency visits that a child will experience due to asthma. One study looked at the effects that a community health worker can have on the life of an African-American child with asthma. Almost all the children had Medicaid and lived in an inner city. Community health workers would go to the child's house and identify any asthma-triggering irritants in the home

(Gutierrez et al., 2012). They also educated the families of the children on proper medication administration.

In the previous year, almost half the children enrolled in the intervention had emergency visits to the hospital due to severe asthma attacks. After the intervention, there was a 75% decrease in the amount of emergency visits seen by these children (Gutierrez et al., 2012). There was also an improvement in the quality of life in the children and an improvement in knowledge on asthma. Also, 85% of participants completed the intervention with the Community Health worker, which shows that an intervention like this is feasible in low-income, black communities (Gutierrez et al., 2012).

Having someone, such as a patient navigator, is a great intervention strategy that can help children with asthma. The idea of a patient navigator was first derived from a doctor who was trying to identify early signs of cancer in people living in poverty in Harlem. Patient navigators are people who deal with the uninsured, minorities and the elderly and these groups gain access to medical care. The responsibilities of the patient navigators can include transportation, interpreting a doctor's message and social support (Black et al., 2010). During one study pertaining to patient navigators, many people stated that they would want someone to advocate for them during the doctor visit. One person stated that a regular person may not be seen as an equal through the eyes of a doctor and that it would be nice for someone to have someone advocate for them that the doctor can respect. Another person stated that the patient navigator could help understand the things that the doctor said and could also serve as an extra pair of ears if something was missed (Black et al., 2010).

Medical professionals were also asked their opinion on the role of a patient navigator. Three out of five nurses agreed that that patient navigator should help aid in communication

(Black et al., 2010). This could be to serve as an interpreter for those who do not speak English or simply greet the person and make them feel more comfortable with their doctor visit.

Physicians like the idea of patient navigators enhancing the patient-provider relationship. They liked the idea of having someone that a patient can go to when they are not available (Black et al., 2010). They also saw patient navigators as a way for patients to have clarity on their instructions and someone that can help their plans get carried out. Physicians did have some reservations. Many doctors were in favor for having the patient navigator in the room as long as they did not slow down the visit or intervene in the doctor's care (Black et al., 2010).

Patient navigators are for people who do not have a voice when it comes to their medical care. By being the voice for low-income and minority patients, a patient navigator can be better suited for developing an asthma action plan that can cater to the needs of the people that they are serving. Also, the use of a patient navigator can be a cost-effective way for healthcare professionals to efficiently help their patients manage their asthma.

Resource Handout

706-546-5526; <http://www.athensneighborhoodhealth.com/index.html>; jrichardson@aneighbor.org

Athens Neighborhood Health Center's mission is to provide affordable, high quality, primary healthcare to medically under-served individuals in Athens-Clarke County. Athens Neighborhood Health Center makes healthcare affordable to all people by assigning uninsured and under-insured persons to a sliding fee scale. Athens Neighborhood Health Center offers several in both pediatric care from birth to age eighteen and a family practice primary care for ages two and up. The fees for these services are determined on an individual, sliding scale.

ATHENS TRANSIT

775 East Broad Street, Athens, Georgia 30601
(706) 613-3430; <http://www.athenstransit.com>

Athens Transit is the main bus system in Athens. They currently have 28 routes that run from 6am until 10pm Monday through Friday and 7am until 10pm on the weekend. They have many different stops at convenient locations all over Athens that makes it easier for people to travel. Children ride the bus for free and a single ride for adult's costs \$1.75. For 22 rides, the adult smartpass is \$31 so this makes more sense for frequent riders.

J.J HARRIS ELEMENTARY CHARTER SCHOOL

2300 Danielsville Rd, Athens, GA 30601
706-111-1212; <http://www.clarke.k12.ga.us/Harris>; thomasx@clarke.k12.ga.us

J.J. Harris Elementary Charter School is located in Athens and is part of the Clarke County School District. This is a governmental, tax-supported school and serves its students' medical needs through a school provided nurse. The services offered by the school nurse are free and any student attending the school has access. While the nurse cannot provide inhalers or prescribe asthma medication, he or she can help the student with his or her asthma problems and needs by administering the medication and ensuring the student is correctly managing their condition.

MEDICAID

284 North Avenue, Athens, Georgia 30603-1887
(706) 227-7021; <https://dfcs.georgia.gov/medicaid>; 1-877-423-4746 (for Medicaid)

Medicaid is a resource that is available to those in Georgia who are at or below the federal poverty line and meet the other requirements. There is an office, The Division of Family and Child Services that helps people who qualify for Medicaid to sign up and receive their benefits. Their website also has the step-by-step information on how to sign up for Medicaid and there is also a phone number on their website that is specifically for those applying for Medicaid. There is no cost for the services, this is a government provided program.

ST. MARY'S SUPPORT GROUP

1230 Baxter St., Athens GA 30606-3791
706-389-3227; <https://www.stmarysathens.org/health-resources/classes-events/class-calendar/details?id=341>

St. Mary's provides a support group called the Better Breathers Club. This is an opportunity for those who can go since it is at the hospital and during the middle of the day. They provide support and education for those with asthma and their family members. The meetings are free to anyone who wants to go and it is a good way to meet people and connect with those who are also coping with asthma and other respiratory disorders.

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Individual Reflections

Taylor Revenew

For our case study of asthma in a low-income child on Medicaid, our group struggled through several hardships in trying to find information and resources from community agencies. The primary issue we faced throughout the semester was finding an agency that catered to this specific case. While it is typically easy for a middle-upper class child suffering from asthma to receive care from his or her primary care doctor, it is a very different situation for one that is of low-income and relying on Medicaid (especially because Medicaid will only pay a small portion of the medical bills for asthma treatment and care).

When we were first given this case assignment, we did some research and decided Mercy Health Center would be a good fit. We made an appointment and were able to meet with one of the care coordinators there. She gave us a tour of the facility and we were able to pick her brain on some of our case-related questions. In doing this, we realized we did *not* choose the correct center. Mercy does not cater to children, nor do they accept people if they have any form of insurance at all. This agency would definitely not be able to help our child in any way, other than referring him and his mother to another agency.

After doing much more thorough research, we came to the conclusion that Athens Neighborhood Health Center (ANHC) had exactly what the people in our case needed. They provide affordable services for the medically under-served in Athens-Clarke County, and they have a specialized unit for pediatrics and family care. Our group did face a few problems with ANHC, though. We tried to get in contact with them several times and were not able to schedule a site visit on time. Thankfully, their website is very informative and we were able to get most of our questions answered. The only problem our mother in the case will face is making sure she is

able to afford the fee for the service or for her son's treatment. ANHC will work with her, though, and determine what exactly she can afford and how they will split up the costs.

Another resource we found in the community was the school nurse at J.J. Harris. This was (in my opinion) one of the easiest community resources to get information from. I called the school and they transferred me to the school's head nurse. Over the phone, she was able to tell me exactly what she offers for her students and how she deals with those who have asthma. She was extremely helpful and was willing to answer all of my questions and really take her time explaining and making sure I understood the entire process.

Throughout this process, I have learned several things that will be of benefit to me in my future career. The key thing I think I have taken away is to *really* do your research. First, you need to completely understand the case and the people you are working with. Put yourself in their shoes and identify what they are going through and what they need. Once you've done that and have a good, solid grasp on the issue at hand, then you can begin to look at what resources the community has to offer.

Another thing that the case study made me realize is that even the seemingly smallest issue (like childhood asthma) is actually extremely complex and deserving of much attention. When I was first given this assignment, I kept thinking it would be a no-brainer. After all, how complicated could asthma be? I was dead wrong. There are so many factors that not only play into the development of asthma, but also in receiving the proper care and treatment. This medical issue is especially impacted when you bring a low socioeconomic status into play. Finding care that is affordable is a huge challenge, and it can be exhausting to find a community organization that is accessible.

Overall, this case study project has given me a tremendous amount of insight and has really helped me to better understand some of the issues people all around me are facing on a daily basis. I have taken so much away from this assignment, and am very grateful to have had this experience.

Ashley Davis

Over the course of this case study our group learned a lot. We very quickly noticed how hard it was to find resources that were available for this immigrant family experiencing low-income. There are very few resources and primary care efforts out there to help those with asthma, even though it is such a prevalent disease. After learning all about the triggers of asthma and how the disease can be prevented, it was slightly surprising that there was not more out there working on preventing asthma and making environments safer for those who are experiencing the disease.

One thing that we had to learn was that we had to imagine ourselves in Sun-ja's situation to be able to know what resources would be most helpful to her. While the St. Mary's support group sounds like a good opportunity for Sun-ja to go, and learn about asthma, it is highly unrealistic. The support group meets at the hospital at 2pm one Thursday of each month. With Sun-ja working to support her son, we learned how unlikely it would be that she could make it even though it sounds like a good idea.

To be able to understand what community resources would be available for the family we wanted to understand that medical care was available with Medicaid as their insurance. Our first site visit was to Mercy. After we got there we realized that it was not the correct site. They do not accept people who are children, or those who are insured and Medicaid is insurance. Therefore, Sun-juh cannot be a patient at mercy because he is both a child and on Medicaid.

Even though this was not the correct site for this case, it was interesting to see what services are available for those who do not have insurance.

Once we realized that Mercy was not the place for Jun-suh to go, we did some more research and discovered Athens Neighborhood Health Clinic. This clinic does serve children and they take people who have Medicaid which made it a great fit for this case. We had a lot of trouble getting in touch with the coordinator to set up another site visit and see what the clinic had to offer. She did not respond for many weeks and since we got a late start after our site visit at Mercy not working, it was challenging for her to meet with us. Their website could answer most of our questions about the site and explained all the services they offered. One of the most important services was the on-site pharmacy which would provide lower cost medications right after the doctor's appointment which is very important for this case.

The last place that we talked with was J.J. Harris Elementary School. Although we were not able to go to the school, we could speak with the school nurse over the phone and ask her questions. One thing that we realized was that even though J.J. Harris had a school nurse, most schools are not that fortunate. It was very helpful to be able to speak with her and learn about the different things the school does to help children with asthma cope with the disease.

Sun-ja is a single mother who is trying to support her son and pay for the medical bills from his asthma condition. One of the largest issues we faced while finding resources for this case was finding opportunities that would be available to decrease the triggers that cause asthma attacks. In our sustainability section, we discussed a few initiatives that are currently being used in other places to make both schools and homes healthier for children with asthma. None of these initiatives are currently being used in Athens and this would have been highly beneficial for Sun-ja and her son. By providing cleaner housing that has fresh and filtered air and clean schools that

are free of mold it could decrease the rates of asthma tremendously and we had hoped to find some initiatives for these in Athens.

I have learned many things in this case study that will help me in my future career. The first thing I learned is how important it is that doctors accept Medicaid. Pediatricians must accept Medicaid, which was helpful for this case but I learned how hard it is for many low-income immigrant families to afford good medical care when they have Medicaid. Therefore, I think it is so important that doctors accept Medicaid and work with patients to pay for the extremely high medical bills. Another thing that I learned is how few resources there are for those with asthma. Since I want to go to healthcare in the future, I saw the need in this case to focus on prevention of asthma. As a healthcare professional, spending time with the people who come into the office is key in getting them to understand their disease and being able to prevent it. I think there needs to be more emphasis at doctor's appointments on the prevention of chronic diseases, like asthma and explaining to people the different risk factors.

The last thing that I learned that I will use in my future career is how important it is to try to see things from the point of view of the people you are helping. I thought that many other resources would work for this case study but when I really looked at the case and what their needs were I realized there were many things that would not work, for example the support group. In a healthcare setting, when recommending different things to patients it is important to focus on what is feasible for them and give them options that they can include in their lives. This case study taught me to look at the needs of those you are trying to help and focus on what is realistic and will help them the most.

Busola Akingbade

When first assigned the case study, I assumed that there would be many resources for children with asthma. My assumption derived from the fact that asthma is a very prevalent illness in our society. I soon learned that there are very limited resources for people with asthma, especially if they come from a low-income household. Because of these realizations, I also learned how to think of plausible solutions that will not help those affected by a certain illness, but also solutions that can help a whole community.

Finding resources for the child in our case study was not easy. Athens has very limited resources that target people with asthma. We also discovered problems with some of the resources that we included in our draft. For example, local pediatricians were listed as one of our resources. Although there are plenty of pediatricians in Athens that accept Medicaid, Medicaid reimbursements tend to be low which can affect the quality of service that doctors provide for patients on Medicaid. Because of this, pediatricians may not be the best resource for the family in our case study.

If working on this case study has taught me anything, it is that one must be mindful of those with a lower-income. It is very easy to have a “middle class” way of thinking and to assume that people with a lower income have the same amount of time and resources as someone who belongs to the middle class. Evidence of this was when we discussed the St. Mary’s Support group in our original draft. The support group meeting was on a weekday during the afternoon. It never occurred to us that a single, low-income mother would not have time to attend such a support group due to work. I am glad that this case study has opened my eyes to the reality of people with a low-income and that it has removed this bias approach to helping people in this community.

Because I am now able to think about health issues from a different perspective, I feel that working on this case study has helped me in my future endeavors. I know that I want to help people who are disadvantaged and working on case study where the family was low-income has taught me how to develop plans that can cater to their needs. It is important that when I help people in the future, I must place myself in their shoes. Solutions that may work for me may not work for them due to their status in society.

One of the more difficult aspects of our case study was securing a site visit. For our first site visit, my group visited Mercy. During that visit, we discovered that Mercy did not serve children, nor did they serve people with Medicaid. After this setback, we decided to reach out to Athens Neighborhood Clinic. After not responding to several of our emails, we decided that it was best to contact another site. That is when we decided to contact the school nurse at J.J. Harris Elementary School. The school nurse was very helpful and gave plenty of insight on the resources that the school provides to children with asthma.

Overall, I enjoyed working on this case study. I never knew how much effort was put into developing sustainable solutions for different health issues until I worked on this project. Regardless of how difficult it was to find resources, this project still taught me plenty of things about the different resources Athens offers. I have also learned how to think like the people that I am serving. This project has given me the privilege to gain knowledge that I can carry into my future career.

Lydia Purcell