

US EPA ARCHIVE DOCUMENT

RACIAL & ETHNIC ASTHMA DISPARITIES

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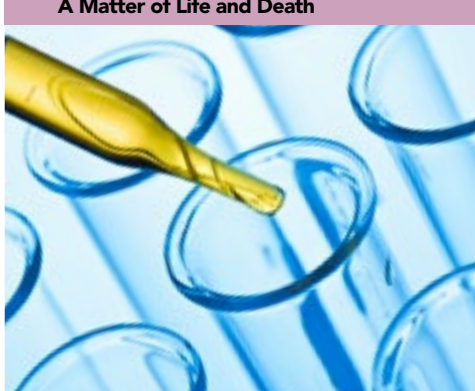
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I am pleased to launch our new Disruptive Women series on the topic of racial and ethnic asthma disparities.



This is the second installation in a series inspired by the Disruptive Women in Health Care blog and Environmental Protection Agency’s partnership to examine issues of health and the environment. The topic of this ebook was inspired by the Asthma Disparities Working group, which is co-chaired by the Environmental Protection Agency (EPA), Health and Human Services (HHS) and the U.S. Department of Housing and Urban Development (HUD), and which recently released an action plan that outlines the measures that must be taken in order to reduce the drastic disparities in asthma care for racial and ethnic minorities. The most shocking and summarizing statistic with

regards to these disparities is that Black and Puerto Rican American children are twice as likely as Caucasian children to be hospitalized by an asthma attack, and four times as likely to die from the condition. I attended the event that marked the official launch of the action plan, and upon hearing the heads of these three government agencies give passionate addresses about the ways that asthma has touched their lives I was certain this would be an ideal topic for a Disruptive Women in Health Care ebook.

There could not be a more fitting topic for the second iteration of the Disruptive Women in Health Care Blog’s partnership with the EPA, and I am sure that the stories contained in this series of blog posts will open your eyes to the dire necessity of reducing the disparities that have become so prevalent in asthma care in this country. I am grateful to EPA Administrator Jackson for her leadership on this, her partnering with Disruptive Women, and for sharing her personal story as you will see in her post.

Being diagnosed with asthma is a monumental moment in any child’s life; asthma is a condition that can put lifelong limitations on an individual’s lifestyle and choice of activities, and place an enormous burden of care and stress on their entire family. With proper care, it is a condition that can be controlled quite effectively, but as you will learn, there exists an unacceptable level of disparity in accessing that care. In this series of blog posts, our Disruptive Women will delve deep into this issue from both a personal and professional standpoint. It is our hope that this information will contribute to the efforts of the Asthma Disparities Working Group, and that together we can reach a solution.

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ROBIN STRONGIN

President & CEO of Amplify Public Affairs, LLC

Creator and Founder of Disruptive Women in Health Care

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The personal nature of these posts is paramount to the goal of this project, and it is important to note that the authors were free to write about any topic – without restriction or guidance from the EPA or the Disruptive Women in Health Care.

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Asthma, Disparities and the Environment

By EPA Administrator Lisa P. Jackson



The statistics are alarming: Nearly 26 million Americans suffer from asthma.

One in 10 American children battles this respiratory illness, making it one of the most common childhood chronic diseases.

Safeguarding the air we breathe and preventing illnesses like asthma is one of my most important jobs as Administrator of the U.S. Environmental Protection Agency. This issue is very close to my heart. Both of my sons have struggled with asthma. I know what it's like to stay awake at

night, worrying that the lightest sound of a cough may be a sign of something more serious. Before I am an environmentalist, I am a mother, and my family's experiences have given my fight for clean air an added urgency.

One of the challenges we must address is that asthma disproportionately affects children growing up in low-income and minority families. Among children with asthma, black children are twice as likely to be hospitalized, and four times as likely to die due to asthma. Hispanic children also face a higher risk of asthma.

Although these statistics can be discouraging, there is cause for optimism. The EPA has been hard at work to cut air pollution and decrease asthma and other unhealthy impacts on American families.

In the last three years, we have worked on measures to reduce health threats from cars on the road and power plants. We've encouraged greener, cleaner schools that will reduce risks to our children's health. In 2010 alone, Clean Air Act pollution prevention standards helped prevent more than 1.7 million incidences of asthma attacks. In addition, EPA recently finalized Mercury and Air Toxics Standards which will further reduce air pollution and help prevent even more asthma attacks.

Still, we have a long way to go.

That's why I'm proud EPA is working with the U.S. Department of Health and Human Services and U.S. Department of Housing and Urban Development on The Coordinated Action Plan to Reduce Racial and Ethnic Asthma Disparities. Launched earlier this year, this action plan enables federal agencies and our partners to work more comprehensively on tackling a major health threat, so that we can protect all Americans, no matter what community they call home.

At EPA and across the federal government, we are working to enhance our efforts so that millions of American children – in every community – can benefit from the simple fact of being able to breathe a little easier.



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LISA P. JACKSON

Administrator of the
United States Environmental Protection Agency

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The President's Task Force meets on Environmental Health Risks and Safety Risks to Children Launch of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities at the Boys & Girls Club's Town Hall Education Arts Recreation Center Campus on May 31, 2012.



GOVERNMENT LEADERS CONVENE TO DISCUSS THE LAUNCH OF AN INTERAGENCY EFFORT TO REDUCE THE PREVALENCE OF ASTHMA IN LOW-INCOME AND MINORITY AMERICANS by Elliot Patton

Close to 26 million Americans suffer from asthma, including 1 out of every 10 children, and asthma costs our economy about \$56 billion per year.

ELLIOT PATTON

Associate at Amplify Public Affairs, LLC

“It was easy to sense the excitement that each and every speaker and panelist felt at the notion of beginning to chip away at this problem which has had such a widespread impact not only on our nation’s physical health, but on its economic health as well.”

The condition affects racial and ethnic minorities at a dramatically disproportionate rate; African American and Puerto Rican children under the age of 17 are twice as likely as their Caucasian counterparts to be affected by this respiratory condition. Asthma rates are also correlated with income, with lower income individuals having a significantly higher chance of affliction. In addition to increased prevalence of asthma in minority populations, minority individuals with asthma are much more likely to have a serious asthma-related health event; black asthmatic children are twice as likely as white children to be hospitalized and four times more likely to die as a result of their condition.

In an event that marked the beginning of a push to end the suffering of these underserved populations, government leaders met yesterday at the Boys and Girls Club of Greater Washington for the official release of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities. White House Council on Environmental Quality (CEQ) Chair Nancy Sutley, Environmental Protection Agency (EPA) Administrator Lisa P. Jackson, Secretary of the U.S. Department of Housing and Urban Development (HUD) Shaun Donovan, and Secretary of the U.S. Department of Health and Human Services (HHS) Kathleen Sebelius discussed the significance of the action plan, and a 10 member panel delved deeper into the details of the coordinated effort to



The President’s Task Force meets on Environmental Health Risks and Safety Risks to Children Launch of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities at the Boys & Girls Club’s Town Hall Education Arts Recreation Center Campus on May 31, 2012.

reduce racial and ethnic asthma disparities.

The message that EPA Administrator Lisa Jackson wanted to convey to the crowd gathered in the Boys and Girls Club gymnasium was that “the Obama administration is here for you.” As the mother of an asthmatic son, she has the deepest possible understanding of the urgency with which this problem must be addressed, and of the injustice that occurs when a child is predisposed to this burdensome condition simply because of their income or race. In her work at the EPA, Jackson is proud to have overseen the implementation of programs that led to the prevention of 1.7 million asthma attacks last year, and to be working

towards enacting Mercury and Air Toxics Standards (MATS) which will save between \$37 billion and \$90 billion in health care costs each year by increasing the quality of our air and decreasing the prevalence of respiratory illness.

While Lisa Jackson has been fighting to uphold the maxim that “every child should grow up in a healthy environment with access to clean air and water,” HUD Secretary Shaun Donovan has been attacking asthma through programs such as “Healthy Homes” which ensure that people’s houses are not negatively impacting their health. The 1 in 5 children who live in poverty in the United States are much more likely to live in homes



The President's Task Force meets on Environmental Health Risks and Safety Risks to Children Launch of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities at the Boys & Girls Club's Town Hall Education Arts Recreation Center Campus on May 31, 2012.

with environmental asthma triggers, and Secretary Donovan laments the fact that it is possibly to predict an individual's life span based on the zip code that they live in. He invited the audience to "envision a day where no child has to be sick just based on where they live or what they look like," and expressed confidence that this new partnership which spans many different areas of government is the way to move towards this goal.

Each of the speakers made a point to emphasize the importance of the interagency collaborative nature of the action plan. HHS Secretary Kathleen Sebelius pointed out that "the best work we do, we do

together." She praised the implementation of an all of the above strategy which will be able to approach the reduction of racial and ethnic predisposition to asthma from every possible angle. Having experienced the pains of dealing with asthma firsthand, when she used to hear her brother gasping for air in the next room when she was a young girl, she is determined to reduce the burden that this condition places on poor and minority Americans: "This shouldn't happen in America," she stated resolutely. The creation of this interagency initiative is the first step in making her goal, and the goal of everyone involved, a reality.

Sandra Howard, Senior Environmental

Health Advisor for the Office of the Assistant Secretary of Health at HHS captured the essence of the event by stating that "I feel a great deal of relief that we've gotten this far, but we're really just at the starting line." Now that the framework is in place, it was easy to sense the excitement that each and every speaker and panelist felt at the notion of beginning to chip away at this problem which has had such a widespread impact not only on our nation's physical health, but on its economic health as well.



THE RACIAL POLITICS OF ASTHMA by Dominique Browning

In the wake of the tragic shooting of Trayvon Martin in Florida, there's been a lot of talk about the risks to black children of being shot and by whom. Last week Harry C. Alford, the President and CEO of the National Black Chamber of Commerce, testified against the new Mercury and Air Toxic Standards during a Senate committee hearing.

DOMINIQUE BROWNING

Co-Founder of
Moms Clean Air Force

"Poverty brings far worse health than mercury coming out of a coal plant or utility plant. Violence, crime. These kids that I see are far more likely to get a bullet in the head than asthma. And that's the reality of it." - Harry C. Alford's testimony during the hearing

Two days later, during another Senate hearing on the EPA budget, Alabama Senator Sessions claimed that air pollution victims are "unidentified and imaginary." But neither of these gentlemen is talking about reality.

This is reality: African American children are far more likely to develop asthma than get a bullet to their heads. And asthma incidence is directly linked to air pollution. One only has to read the tragically sad story from [Chandra Baldwin-Woods](#). Her 16-year-old son, Jovante suffered an asthma attack and died after returning home from a football practice.

In 2008, African Americans had a 35% higher rate of asthma than Caucasians. A study has found that one-quarter of the children in New York City's Harlem have asthma. The following national statistics are even more jarring:

African American children have a:
260% higher emergency room visit rate
250% higher hospitalization rate
500% higher death rate from asthma
compared with White children.

One reason for the disparity? 68% of African-Americans (compared to 56% of Whites) live within 30 miles of a coal-fired power plant—the distance within which the maximum ill effects of the emissions from smokestacks occur.

Asthma is the most common chronic disease in childhood—and its incidence is increasing. In 1980, 3.6% of U.S. children had it; in 2001, 9%—an astonishing 250% increase. It afflicts more than 7 million American children and is the third-leading cause of hospitalizations among children under the age of 15.

Just as medical researchers once uncovered the link between cigarettes and lung cancer, researchers are now discovering the exact mechanism by which air pollution is linked to asthma. Kari Nadeau is a Stanford University School of Medicine physician, scientist and mother of five young children—two sets of twins! She and her colleagues have been following the evidence on the asthma trail to understand the cause of the illness. Their research is pointing to air pollution as the culprit.

Nadeau and her team investigated the effects of air pollution on children in Fresno—one of the top ten most polluted cities in the country (in fact, six of the ten are in California.) Their results were published in the Journal of Allergy and Clinical Immunology: Ambient Air Pollution Impairs Regulatory T-Cell Function in Asthma.

Nadeau explained her work: "Our research showed that the effects of air pollution in Fresno are associated with genetic changes in the immune cells of children. In other words, the simple act of inhaling polluted air affects the immune system's ability to do its job. The increasing numbers

and severity of asthma are directly related to these genetic changes. These genetic changes are possibly permanent."

The immune system is Nadeau's specialty. In an interview on Stanford's website, she remarks:

"Many people don't understand that the immune system is connected to so many other fields in medicine. Parts of the immune system exist most everywhere in your body (from head to toe). The immune system is involved in neurological diseases, heart disease, obesity, diabetes, autoimmune diseases, asthma, and allergies, to name a few. In the field of immunology, we need to appreciate all the different areas of the body because the immune system is integrated into everything."

Here's the reality: Reducing air pollution is a social justice issue of profound significance. The National Black Chamber of Commerce is playing politics with children's health. It has received \$525,000 from ExxonMobil—hardly eager to end fossil fuel pollution—since 1998. But the games should end. This is something all parents—black or white—should be furious about.



REDUCING ASTHMA'S TOLL ON A VULNERABLE POPULATION

by Barbara Kaplan

.....
BARBARA KAPLAN

Director of
Asthma Education for the American
Lung Association

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More than 25 million Americans currently have asthma—including 7 million kids. Even more distressing is the fact that asthma rates are on the rise. Asthma affects people of all ages, races, genders and socioeconomic status. However, it is far from an “equal opportunity” offender. Asthma

occurs at disproportionately higher rates among some ethnic and racial populations. African Americans have some of the highest rates of asthma when compared to Caucasians and Hispanics as a whole. However, when you take a closer look within the Latino population, Puerto Ricans have higher rates of disease than any other group.

In October 2011, we released our fourth report as part of our [Disparities in Lung Health Series](#) which takes an in-depth look at specific problems in specific communities. The report found that three million Hispanics have asthma in the U.S. For reasons that are not clear, Puerto Ricans are more likely to be diagnosed with asthma while Mexican Americans have some of the lowest rates of the disease. However, there is evidence to suggest that Mexican Americans are significantly under-diagnosed. Hispanics are the nation’s fastest growing ethnic group, and the urgency of addressing the burden of asthma grows with it.

Did you know that Latinos with asthma are less likely to be prescribed appropriate asthma medicines? Or that they are more likely to end up being treated in the emergency department or hospitalized as a result of uncontrolled asthma? These are just two of the reasons why Latinos face a greater burden when it comes to managing their asthma. Our report [Luchando por el Aire: The Burden of Asthma on Hispanics](#) looks at the complex factors that increase asthma’s burden on the Latino population.

The American Lung Association recommends a number of action steps to help eliminate these disparities. These steps target federal agencies, public and private funders, health care systems and providers, insurers, advocacy agencies, Hispanic community leaders and families. To learn more, go to www.lung.org/Asthma-In-Hispanics. The report has been a useful catalyst to bring stakeholders together around the country to explore the problem in the community and incorporate the recommendations. Concerned groups can also reach out to the American Lung Association [in their community](#) for tools and expertise to take local action.

To learn about the American Lung Association’s programs and resources for managing asthma, visit www.lung.org/asthma.

CHANDRA'S STORY: LOSING A SON TO ASTHMA by Chandra Baldwin-Woods

An asthma attack turned my world upside just less than two years ago, and it has never been the same since. After returning home from football practice on a typical hot, muggy August day, my 16-year-old son Jovante suffered an asthma attack that rendered him unconscious from anoxic brain injury. Jovante's father and I spent the next four days by his side in the hospital praying for his recovery, which was not to be.

I do not have adequate words to describe the pain of losing a child. It's something no parent should ever have to experience. Knowing that we will never watch Jovante graduate high school, attend college or experience the joy of starting a family is a pain we must live with every day.

Jovante idolized Jerome "The Bus" Betts for his courage to never let asthma stand in his way on or off the field. With proper treatment, Jovante's doctor was confident that he could continue to pursue his passion for athletics, especially football, which runs deep in our family. Not only do I play on a women's full contact football team, but Jovante's father Ickey was a fullback for the Cincinnati Bengals. Both Ickey and I had asthma growing up and fully expected Jovante would someday grow out of it just as we thought we had.

When I hear those who undoubtedly know better—corporate polluters and even

How these people have the audacity to callously deny what is common information among those in the medical community — air pollution causes asthma attacks and cuts short the lives of those we love most—is beyond me.

politicians in Congress—minimizing the serious health consequences caused by air pollution, my heart breaks all over again.

How these people have the audacity to callously deny what is common information among those in the medical community—air pollution causes asthma attacks and

cuts short the lives of those we love most—is beyond me.

By fighting for air alongside the American Lung Association and Moms Clean Air Force, we are passionate about building a future where every child has healthy air to breathe. Cleaning up power plant pollution, tailpipe emissions and other air pollution sources will prevent thousands of asthma attacks every year while giving other children the chance to fulfill their dreams. It is through this work that the best memories of our wonderful, loving child live on.

We are also proud of the foundation and scholarship program we started in our son's name to help fund the critical work of Cincinnati Children's Asthma Research Division in addition to building organ donor awareness. To learn more about the Jovante Woods Foundation and the 3.8 to Be Great Scholarship, please visit:

www.jovantewoodsfoundation.org.



*I am truly glad to call you my mom
I really appreciate in hard times the way you make ends meet
I love you with all my heart and you're the bomb
You taught me to work hard and never cheat
In past times, we've had our share of fights
Sometimes I may say your name followed by a swear
But still you've always encouraged me to reach new heights
I'm so sorry my asthma attacks gave you a scare
Without you, I would not be here
When I'm upset, you've always kept calm
With a house filled with six kids you found time to care
This is why I'm glad you are my mom*

– Jovante Woods, 1994-2010



BETTER DATA MEANS BETTER HEALTH by Kathy Lim Ko, MD

When it comes to understanding asthma in Asian American, Native Hawaiian and Pacific Islanders (AAs and NHPIs), we hit a road block because we don't have the full breadth of data that we need — and the limited data we do have paints a concerning picture. Doctors' diagnoses alone tell us that the rate of asthma in NHPI children is [three times higher than that of white children and twice that of black or Native American children](#). But a reliable and accurate rate of asthma in NHPI children simply doesn't exist.

KATHY LIM KO, MD

President & CEO of the Asian & Pacific Islander American Health Forum (APIAHF)

Similarly, [if hospitalizations are any indication](#), then AA and NHPI seniors too suffer disproportionately from asthma complications. In 2008, AA and NHPI adults 65 years and over were admitted into a hospital for asthma at a rate (235.9 per 100,000) higher than the total population (234.9 per 100,000) and all other race groups, with the exception of blacks (427.7 per 100,000). And the nation's vital statistics system tells us that asthma-related deaths were [40 percent greater among Asian Americans in 2008](#).

[NHPIs in particular comprise a higher percentage of adults with asthma](#) than any other racial group in the United States. In 2000, Native Hawaiians had almost twice the rate of asthma for all other races in the state of Hawaii.

We know that multiple factors influence our health, from immigration status, to geography, to limited English proficiency; not to mention environmental factors such as where we live and the presence of allergens. Coupled with genetic factors, these environmental determinants can have a marked effect on asthma.

What we don't know, for example, is how exposure to tobacco smoke in AA and NHPI communities—where smoking is prevalent—increases the risk for adult asthma. What we need to know, through better and more granular research and data, are the community and individual level conditions that contribute to these



With the AA and NHPI populations on the rise—and currently the fastest growing racial groups in the country—the time for a deeper understanding of these communities has come. We need more standardized data collection and reporting on race, ethnicity, and primary language; in health surveys, hospitals, and health care organizations; and across the local, state, county and federal levels.

staggeringly high rates of asthma for NHPI children and adults. If we had this information, we could improve prevention, screening and treatment, and avert thousands of asthma flare-ups, complications and deaths in AA and NHPI communities.

With the AA and NHPI populations on the rise—and currently the fastest growing racial groups in the country—the time for a deeper understanding of these communities has come. We need more standard-

ized data collection and reporting on race, ethnicity, and primary language; in health surveys, hospitals, and health care organizations; and across the local, state, county and federal levels.

Public health officials and health advocates need more robust data to generate baseline health information on AA and NHPI communities, and the conditions that contribute to health disparities. National research often cites small population size

and lack of reliable statistics as reasons for the lack of data on these communities. **This is only exacerbated by a disparity in federal funding to support these communities—less than 1 percent of federally funded health grants focus on AAs and NHPs.**

Recent federal initiatives like the [Affordable Care Act's requirements](#) to better collect and disaggregate data on race, ethnicity, sex, primary language, and disability status will help generate data across federal health surveys. And thanks to the work of health care advocates, the National Health and Nutrition Examination Survey (NHANES) has already started to oversample Asian Americans in the 2011-14 data collection.

While these strategies are a great start, we must also invest in more innovative approaches at the community level to generate research that is more granular and specific to the many Asian American subgroups and for even smaller populations like Native Hawaiians and Pacific Islanders. We must make sure that when data are collected, the numbers are analyzed in ways that are useful to these communities.

[Community-based participatory research \(CBPR\)](#) is one such approach. CBPR will not only fill our information gaps, but will expand on the health knowledge we already have. CBPR works through collaboration between community stakeholders and researchers to generate research that is representative, useful

and supported. And, because CBPR is done at the more local and regional level, researchers can capture data on smaller populations like NHPs, traditionally a difficult group to capture through the larger national surveys. The collaborative approach also yields data that can be more easily disseminated and used in outreach, education, advocacy and policy efforts tailored to participating communities.

The stakes are too high in our communities. When it comes to asthma in particular, too many of us are ending up in the hospital or dying. We can no longer ignore the multi-faceted health needs of AAs and NHPs and must make the investments in data collection and reporting today.



RONNIE'S STORY: A SON'S MYSTERIOUS ILLNESS

by Ronni and Lamar Tyler

I remember when my son was first diagnosed with asthma. I was a single mom living over 600 miles away from my family and friends. He was in the 2nd or 3rd grade, and it seemed like he was always getting sick.

The nurse would call me at work and say, "Please come pick up your son. He has a low grade fever and he threw up on the playground." Of course any child who throws up at school has to go home. So, I had to leave work to pick him up (it took about 30 to 45 minutes to get to his school).

When I picked him up and took him home he was fine. No fever. No symptoms of sickness. No more throwing up. I would give him over the counter medicine for allergies or colds. But nothing really helped.

This went on for weeks. I had to leave work to pick up a child that I knew would not be sick when we got home. I began to get frustrated. I was frustrated with the nurse.

"Can't he stay? He's not sick and he is just going to be playing when we get home. Her hands were tied; she had to follow school policy. Then I began to get frustrated with my son. "Is something going on at

school? Are you doing this to get out of going to class? Is someone bothering you? You have to stop this."

Finally, the doctor told me that my son had asthma. Asthma! I never knew anyone with asthma, and I never would have guessed his symptoms were caused by asthma.

According to the CDC, asthma is the #1 cause for missed school days and accounts for more than 14 million missed school days each year. As I reflect on those times, I think about how blessed I was, and how my situation could have been worse. You see, I had a salaried position and an understanding manager. She did not mind me leaving work early to pick up my son. I could take my laptop and finish my work from home. But what about the single mom or parent who does not have the luxury to leave work without worrying about decreased pay, or

According to the CDC, asthma is the #1 cause for missed school days and accounts for more than 14 million missed school days each year.

even worse, being fired? Can you imagine being told that if you leave early one more time you will be fired?

I was also blessed because I had very good health care benefits through my employer. I was able to take my son to his primary care physician where he was finally



diagnosed with asthma. But what about the parent who does not have health insurance? Will their child have to suffer with this condition until they finally end up in the emergency room? As reported by the Asthma and Allergy Foundation: Each year, asthma accounts for more than 10 million outpatient visits and 500,000 hospitalizations.

Yes, we were blessed. It could have been worse for my son and me. But being blessed does not keep me from being concerned about others that are not as fortunate, and about my community as a whole. Whether our kids have asthma or not, or whether we live in an area with the highest pollution levels or not, we all have the responsibility

to do everything in our power to minimize the impacts of asthma – on our kid’s health, and on our families’ finances. (The annual cost of asthma is estimated to be about \$18 billion per year.)

We can start by joining the fight for everyone’s right to breathe clean air. Because even though asthma is not always caused by air pollution, it can certainly be triggered by it. With this being an election year, it is more important than ever to show that we are united as a community and that we will not support any politician that plans to remove the air quality standards that force polluters to take actions that reduce toxic emissions.

Asthma touches my family and yours.

Please join the [Moms Clean Air Force](#) and show that as a community that we are taking a stand against air pollution.



HOW TECHNOLOGY CAN BRIDGE THE GAP

by Ivor Horn, MD, MPH and Kenneth Eisner

.....
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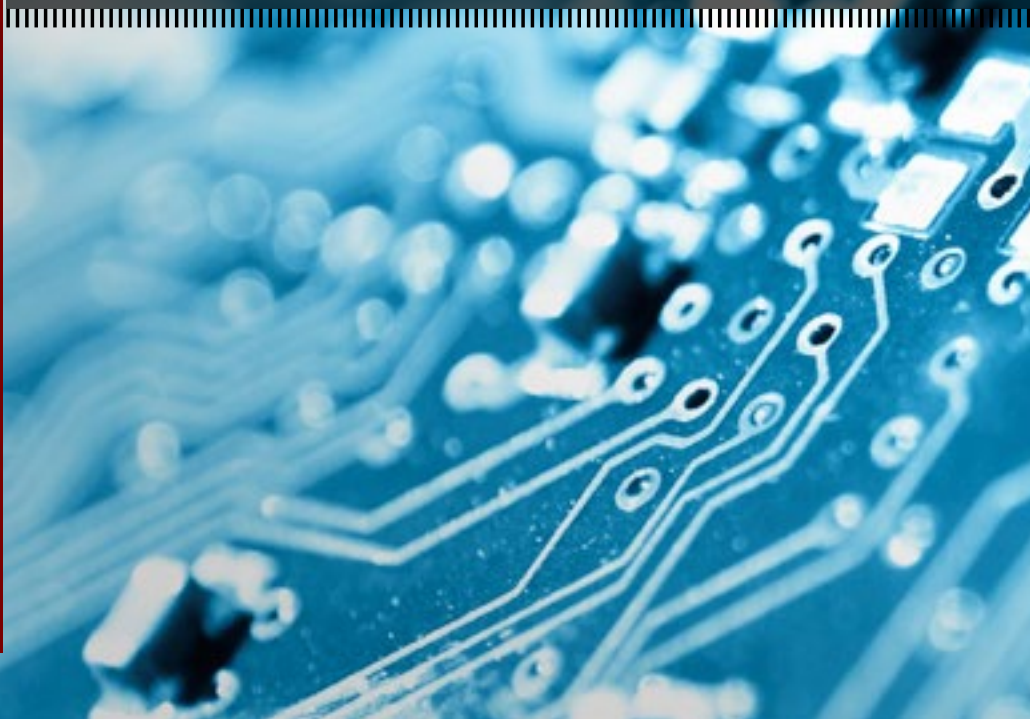
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Asthma is the most common chronic pediatric medical condition in the United States. Its prevalence has tripled in the last three decades with disadvantaged, urban, minority children incurring a disproportionate share: 12.8% of African American children are diagnosed with asthma compared to 7.9% of Whites, and African American children are nearly seven times more likely to die from asthma than Whites. Additionally, African Americans use emergency departments more frequently, incurring higher health care costs.

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MORE WORK TO BE DONE

Implementation of the National Asthma Education and Prevention Program's (NAEPP) guidelines has contributed to reductions in asthma morbidity and mortality rates. However, there is still more work to be done. Recently, the President's Task Force on Environmental Health Risks and Safety Risks to Children proposed to expand the reach of the NAEPP guidelines by using "innovative technologies to reach, engage and educate patients and families in communities affected by racial and ethnic asthma disparities."

This call to action presents a unique opportunity to create a framework for the development, implementation and evaluation of innovative technologies to address asthma as a chronic health condition. However, to see significant progress in creating technological innovation to address disparities in asthma, we will need to achieve two important steps:

1. Identify interventions that will work
2. Incent organizations and companies to develop solutions



REACHING EARLY ADOPTERS OF MOBILE

Similar to other major advances (e.g., antibiotics, immunizations) in health care, mobile health (mHealth) has the potential to transform how patients manage their health and health care. Unlike previous innovations distributed to patients via the health care system, mHealth has the potential to disrupt traditional access inequities that have contributed to racial and ethnic disparities largely due to device ownership and utilization. As early adopters of mobile technology, underrepresented minorities may be best positioned to benefit from mHealth.

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Here are some stats from Pew Internet and Life:

In 2010, African Americans and Hispanics were significantly more likely than whites to own a mobile phone, access the Internet, and send and receive text messages.

The higher cost of smartphones did not dissuade purchase rates among these population segments: 49% of African Americans and Hispanics own smartphones, above the national average of 46% and white average of 45%.

Meanwhile, households with less than \$30,000 in income are the fastest growing population segment, doubling ownership rates over the past year, and households with income level between \$30,000 and \$50,000 pace the national average.

By 2012, smartphone adoption in minority and at-risk populations had accelerated, with these devices often replacing home broadband ownership.

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While there are several potential mHealth technology solutions to help patients measure asthma symptoms, send pertinent information to medical providers, and recognize/ assess asthmatic triggers, their effectiveness among the most at-risk populations is not clear. Solutions for disadvantaged and at-risk populations must move beyond reminders. They must work with the community to address challenges universal to asthma patients and unique to those most affected by disparities.

For example, parents in at-risk, inner-city communities often need to educate multiple caregivers about their child's asthma management needs. This can include their parenting partner, other family members such as grandparents who help with childcare needs, day care

providers and schools. One solution could be the development of mobile applications and messaging tools that support the parents' ability to manage their children's conditions, provides parents with a mechanism to share their child's asthma action plan and facilitates co-management by other caregivers.

In addition, children at risk for asthma health disparities are more likely to self-manage their asthma at a younger age than those from more advantaged backgrounds with greater social supports. Consequently, mobile technologies designed to teach children about asthma in a developmentally appropriate way are particularly important. Creating mobile solutions that support parents' ability to co-manage their child's asthma in these situations would be a useful tool.

However, there are unique needs for these types of solutions: According to Pew, minority families are more likely to connect to the internet via a mobile device and continue to fall behind in broadband access at home. Therefore, mobile innovation to facilitate communication should be able to share data mobile to mobile that do not require download to a desktop or laptop computer. These are just two potential ways in which innovative technologies can help reduce asthma disparities.

IGNORING AN IMPORTANT MARKET

Unfortunately, while new mobile technologies are being developed at an unprecedented rate, they may not be reaching the most needy Americans where they are—in low-income, ethnic minority communities. American mHealth application developers, venture capitalists, and entrenched health care interest groups

“There is a greater demand for change and, just as important, there are fewer entrenched interests to impede the adoption of new approaches.”

are missing this large and untapped need by solely focusing on higher income consumers at the top-of-the-pyramid.

A 2012 PriceWatershouseCoopers report captured this sentiment, concluding that much mHealth growth will take place outside of the U.S. because, “... there is a greater demand for change and, just as important, there are fewer entrenched interests to impede the adoption of new approaches.” The U.S. has been frighteningly slow in recognizing the size of the at-risk market, the unmet demand, and the positive impact that mHealth applications could deliver to society.

IDEAS FOR MOVING FORWARD

Incentives should be created to foster the creation and usage of mHealth applications that meet the need of these large at-risk populations and to spur innovation. Some ideas that we suggest to accomplish this include:

- 1 Establishing public-private partnerships between doctors, insurers, application developers, telecommunications companies, patients, academic institutions and non-profits focused on at-risk communities to address these issues and suggest solutions.
- 3 Encouraging philanthropic organizations, entrepreneurs and venture capitalists to support the creation of incubators to accelerate development specifically targeted at addressing issues of health disparities in at-risk communities, such as those seen in asthma, obesity, diabetes, and other chronic conditions that add extraordinary costs to our health care system.
- 2 Creating an allocation of funds from government and health care insurers to test and prove the validity of mHealth solutions to address racial and ethnic asthma disparities.
- 4 Creating incentives for end-user usage, primarily in the form of reduction in health care costs and the provision of devices is needed to support adoption in the community.



Progress towards reducing racial and ethnic asthma disparities needs a bold course of action. Advances in health technologies could be that bold course, if we are willing to take it.

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**DISPARITIES IN ASTHMA TREATMENT:
A MATTER OF LIFE AND DEATH**

by Elena Berger

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It is well-documented that asthma disproportionately affects minority, urban, and low-income communities. The reasons are numerous and complicated - poor urban planning, pollution and hazardous materials, lack of data to pinpoint disparities, genetics, cultural differences, and beyond - and these issues must be tackled at the roots.

But what about right now? What about people who already have asthma and are beyond the reach of prevention?

Access to care must be part of any discussion about asthma disparities. We know the numbers. Now we need to address not only societal reasons for this health care crisis, but societal imbalances in how we care for the sick.

Chronic disease is different from acute illness. It's not something you go to the doctor for once and get cured; it's a daily struggle, and often an expensive one at that. Considering that the people who develop asthma at the highest rates are often the people who can least afford to pay for it, they - and we - are facing a monumental problem. From diagnosis to treatment, we are failing our most vulnerable citizens.

OBSTACLES TO TREATMENT

For people with chronic illnesses, the burden of cost can be overwhelming. One the most pressing issues in health care disparities is lack of insurance. 17% of all people in the U.S. don't have health insurance, not to mention the underinsured. Joblessness, low incomes, and the cost of insurance are all cited as reasons, and those factors have risen every year for the past four years. They are also factors that affect minorities the most.

Besides cost, access to health care facilities can be a tremendous hurdle. Sometimes it's a matter of proximity: for those who don't always have reliable transportation, something as simple as distance can make treatment a difficult proposition. And for those who can't always get time off of work, their own health or the health of their children is at odds with the need to put food on the table and a roof over their heads. These are problems that many of us will never have to think about; for those of us who do have to worry about these issues, they are as much an obstacle as a lock on the door of the doctor's office.

A predictable thing happens when asthma patients don't get treatment right away: eventually, many of them end up in the emergency room. The economic ramifications of that are clear - a larger burden on the government, on hospitals

and on society if the patients are uninsured - but the human costs are so much more frightening. By the time asthma is severe enough to warrant hospitalization, it's severe enough to kill - and kill quickly without prior treatment and medication.

There are some solutions to these issues already in place. It's worth noting that the Affordable Care Act, recently upheld by the Supreme Court, will require everyone to have insurance and provide ways to make health care more affordable. While this won't cure the problem of the high cost of treatment for the poorest Americans, it will help. There are also programs that seek to address the problem of simply getting to the doctor. Mobile clinics, such as Washington, DC's Washington on Wheels, provide quality health care services by appointment primarily to uninsured and underserved residents. For urgent care, there are some examples of mobile facilities that make house calls for emergencies, such as Chicago Express Doctors, which is far less expensive than many Chicago urgent care clinics, and far less than a trip to the ER.

A PATH TO DIAGNOSIS

Diagnosing asthma is a separate issue from non-treatment, though of course related. If people don't seek treatment for asthma, they may not even know that they have asthma. The symptoms are not always as cut and dry as you might think. Look at the example that [Ronnie Tyler](#) provides in this ebook. Her son's illness presented more like a daily stomach bug than anything else.

Even if people with asthma already know what they have, the process of

diagnosis is still important. Not only does diagnosis help determine the next steps that patients must take to get treatment – treatment that must be tailored to the individual, since not all asthma cases are alike – it also has a drastic effect on asthma data collection. Lack of good data undercuts our ability to recognize issues among specific populations, research reasons, and set a course of action. It is a public health matter of the utmost importance.

MEDICATION & DISEASE MANAGEMENT

If it's too costly for asthma sufferers to seek treatment, imagine how difficult it would be to pay for long-term medication and follow-up care. Again, there are some programs that are meant to alleviate these costs. Medicaid provides prescription drug coverage for some people who desperately

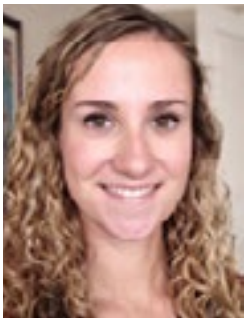
need it. However, there is controversy over the fact that while the program meets the needs of the very poorest, there is a cut-off point that excludes those who are just above poverty limits considered so low that they allow an enormous number of people in need to fall through the safety net.

A REALITY CHECK

What if we continue down the path of disparate trends in illness and treatment? Minorities make up almost 50 percent of the U.S. We're looking at a future in which most of the population is in poor health. Asthma is just one of the pressing health issues we need to deal with, but because of its growing prevalence, chronic nature, and sometimes complicated treatment, it needs specific attention. We're talking about sustaining the health of our workforce, our economy, and - more important than any statistic can capture - our children. We must take action to leave the members of the next generation in better health than ours, not just some of them but ALL of them.

To accomplish this, we need more research to determine what the trends are in asthma disparities and why some populations are becoming sicker than others. We need to have programs in place to change these trends at the preventive level. And for those who are already sick, we must be able to provide quality care across the board.

*That's our responsibility,
not our choice.*



ASTHMA & OBESITY: ACCESS TO HEALTHY FOODS

by Marian Kerr

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MARIAN KERR

Intern at
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Obesity and asthma have become serious public health issues. Both diseases are significantly affected by the constructed environment in which we live. Asthma can be triggered by a variety of factors, from the cleanliness of our homes to access to medication; obesity can be affected by access to food, or rather, the lack thereof. Recently, studies have shown a linkage between the two diseases. Could the association between these diseases allow us to assume that asthma can also be affected by the availability of healthy food options? Let's investigate.

FOOD DESERTS

Millions of American's live in areas known as "food deserts." The term "[food desert](#)" is used to describe urban and rural residential communities with little or no access to healthy food, such as fresh vegetables and fruits, meats and dairy products. Grocery stores and other food retailers in these areas are hard to come by or are unaffordable. According to USDA, more than 23 million Americans, including 6.5 million children, are living in food deserts. Low-income African Americans make up most of the population affected by this healthy food scarcity.

Food deserts are significant because they pose health concerns for their affected populations. A lack of affordable healthy food in an area signifies a large presence of processed foods and fast food options, which in turn leads to health risks such as obesity, as well as diabetes and other diet-related conditions. Projects such as the [Healthy Food Financing Initiative](#) and Michelle Obama's [Let's Move!](#) campaign have targeted their efforts to increasing access to affordable and healthy food because of these associated health risks.

By addressing the issues that affect the overall public health of minority communities, such as the lack of access to healthy food, we can positively influence the trend of asthma prevalence as well.

OBESITY & ASTHMA

The association between obesity and asthma is significant. One study found that the risk of asthma [tripled](#) for most obese individuals compared to people with normal weight. The Journal for Nurse

Practitioners took a look into the linkage between [asthma and obesity in children](#). The authors noted that obesity is strongly associated with breathing disorders because excessive body fat can affect lung function and restrict the movement of air within the body. The effect that obesity has on a person's breathing patterns can complicate the diagnosis, treatment, and course of asthma.

Both asthma and obesity are more likely to African Americans, select Hispanic populations, and low-income households than other American populations.

By addressing the issues that affect the overall public health of minority communities, such as the lack of access to healthy food, we can positively influence the trend of asthma prevalence as well.

RESEARCH & THE FUTURE

Recent studies favor the close association between the two diseases, but the exact nature of the association is unclear. For example, the claim that the increase of obesity has led to asthma prevalence in America is controversial. In order to learn more about this linkage, the Department of Health and Human Services, partnering with the [National Institute of Nursing Research](#) organization within NIH, has announced a [funding opportunity](#) in regards to this issue. The purpose of the funding is to gather more concrete data about the interweaving patterns of obesity and asthma so we can better understand and address these public health issues.

RESOURCES:

- [USDA on Food Deserts](#)
- [Health Problem's and Childhood Obesity](#)
- [Obesity and Asthma- What's the Connection?](#)



**CHILDREN AND
ASTHMA: DANGERS
IN THE HOME**

by Andre Blackman

ANDRE BLACKMAN

Director of Digital Media for
Disruptive Women
in Health Care

Often times we hear about the environmental dangers of smog, pollution and other outdoor elements that can negatively impact our air quality - in turn, negatively impacting our health. For children with lungs that are still growing and adapting to their environment, this can cause illnesses such as asthma and other respiratory ailments to become active. However, not all hazardous materials that affect respiratory health are outside of the home - often times, especially for children, the cause for asthma symptoms can stem from the home environment. This plays a huge role with asthma development in children of color, particularly those who live in urban/city environments & low-income housing that may have poor building materials.

When we usually think of the places where we live, we understand that they protect us from inclement weather and other outdoor elements. Unfortunately, factors such as mold, cockroaches and dust allergens can create a war zone for young people with asthma - especially those who spend a considerable time inside the home. As mentioned before, young people of color who may live in urban environments where regular maintenance of airways and vents, plumbing and building material are not occurring - can be exposed to such hazards.



**WHAT DO THESE HAZARDOUS
MATERIALS LOOK LIKE?**



MOLD otherwise known as mildew, can exist all year long and usually develops in damp environments. Mold typically spreads by releasing airborne remnants (spores) in order to attach to other surfaces. It's this airborne behavior that can cause irritation of the lungs in youth and cause onset of asthmatic symptoms.



TINY creatures will want to spend time in our home, whether we want them there or not. Specifically, roaches and dust mites are main culprits when it comes to asthma. The fecal matter and debris from their bodies float through the air and attach to furniture/carpet. When left unchecked, the build-up can trigger respiratory problems.



SMOKING often occurs in the home around young people. The secondhand smoke impact on lungs (young or old) can be devastating; for children with asthma this can be even worse. The smoke from cigarettes or cigars directly impacts the bronchial passages of young asthma sufferers that are already inflamed - this can cause additional irritation, increasing the chances of attacks and other complications of breathing which can trigger respiratory problems.



GASES and chemicals are often times in homes in high-traffic areas in the form of invisible gases such as carbon monoxide, which can be a hazard. However, indoor items such as gas stoves and furnaces can leak carbon monoxide as well as nitrogen oxides. This is where it's important to regularly test for the levels of these types of gases in your home to make sure they are safe for those with asthma.

We always want to think of our homes as safe havens, but when considering those who may be suffering with asthma - especially the youth - it is imperative to make sure that it can still be a hospitable place by keeping the above in mind. Regularly clean and check for unsafe levels of airborne chemicals and gases.

RESOURCES:

- [EcoLife's Sources of Indoor Air Pollution](#)
- [CDC Research on Indoor and Outdoor Air Pollution](#)
- [EPA's List of Asthma Triggers](#)

