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A Health Justice Perspective of Asthma and COVID-19

*Elizabeth Raterman**

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Introduction

As the coronavirus, or COVID-19, has spread though the United States, many public figures like Madonna¹ and Governor Andrew Cuomo² have described the virus as “the great equalizer.” While this statement may be somewhat true because the virus does not distinguish between the individuals it infects, referring to COVID-19 as an equalizer lacks important nuance and ignores how social determinants of health influence pre-existing conditions, which increase the severity of COVID-19 infections. People with asthma, a condition that affects the lungs and impacts breathing, may be at higher risk of COVID-19 complications, hospitalization, and death.³ Asthma rates are higher in low-income areas, and poverty can influence the development of asthma and the options to manage it.⁴ Individuals with lower incomes are more likely to develop asthma, and asthma symptoms may be exacerbated with nationwide shelter-in-place orders, consequently leading to deadlier outcomes from a COVID-19 infection. While many individuals cannot alone address this, federal and state governments can act to support and protect these individuals by creating asthma-friendly entitlement programs.⁵

This Article will examine the links between asthma, income, and COVID-19 in three ways. First, it will provide a population perspective, which will highlight asthma incidence rates in the United States overall and further break down asthma rates by income level. In the practice of public health, population health is defined as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group.”⁶ Compared to individualized medicine, public health concerns the population at large and seeks to understand how societal factors contribute to community health outcomes.⁷ Next, this Article will rely on a prevention orientation lens to explore three proposed measures that would improve asthma management for low-income individuals; these measures are critical to address both COVID-19 and people spending more time at home. Prevention orientation is a public health concept that considers the root causes of disease and addresses these to prevent the disease from taking hold or from progressing further.⁸ Prevention orientation acknowledges that there is an overlap between public policies, so it emphasizes how education policy, health policy, and housing policy can all influence community health outcomes.⁹

¹ Toyin Owoseje, *Coronavirus Is the ‘Great Equalizer,’ Madonna Tells Fans from Her Bathtub*, CNN (Mar. 23, 2020), <https://www.cnn.com/2020/03/23/entertainment/madonna-coronavirus-video-intl-scli/index.html>.

² Brittany Jones, *Governor Cuomo Is Wrong, COVID-19 Is Anything but an Equalizer*, WASH. POST (Apr. 5, 2020), <https://www.washingtonpost.com/outlook/2020/04/05/gov-cuomo-is-wrong-covid-19-is-anything-an-equalizer/>.

³ *People with Certain Medical Conditions*, CTRS DISEASE CONTROL & PREVENTION (July 17, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#asthma>.

⁴ *Asthma Capitals 2019: Poverty*, ASTHMA & ALLERGY FOUND. AM., <https://www.aafa.org/asthma-capitals-poverty/> (last visited Aug. 28, 2020) [hereinafter *Asthma*].

⁵ Emily A. Benfer & Lindsay F. Wiley, *Health Justice Strategies to Combat COVID-19: Protecting Vulnerable Communities During a Pandemic*, HEALTH AFF. (Mar. 19, 2020), <https://www.healthaffairs.org/doi/10.1377/hblog20200319.757883/full/>.

⁶ *What is Population Health?*, IMPROVING POPULATION HEALTH, <https://www.improvingpopulationhealth.org/blog/what-is-population-health.html>.

⁷ *Id.*

⁸ Lawrence O. Gostin & Lindsay F. Wiley, *Public Health Law: Power, Duty, Restraint* (3d ed. 2016).

⁹ *Id.*

Finally, this Article will analyze the legal considerations for implementing three asthma-friendly protocols.

Population Perspective

Asthma is a condition that causes swelling of the airways, which makes it hard to breathe.¹⁰ Allergens, poor air quality, and debris can trigger asthma symptoms including trouble breathing, wheezing, tightness in the chest, and in some cases, death.¹¹ According to 2018 Centers for Disease Control and Prevention (CDC) data, one in thirteen people have asthma, and in 2018, more than twenty-five million Americans were reported to have the condition.¹² Asthma rates have been rising since the 1980s in all age, sex, and racial groups, likely due to urban air pollution and changes in climate that trigger a rise in pollen levels.¹³

While there are many risk factors associated with asthma, poverty may play an increasingly large role in developing asthma and the ability to manage the condition.¹⁴ CDC data from 2017 demonstrates that Americans, children and adults included, who live below 249 percent of the federal poverty line experience asthma at a higher rate than Americans who live over 450 percent of the poverty line.¹⁵ Additionally, studies have demonstrated that asthma mortality is greater among people of ethnic minorities and people living below the poverty line in the United States.¹⁶ Not only are mortality rates higher among individuals with lower incomes, but hospital admissions for asthma are significantly related to poverty.¹⁷ These rates may be due to how poverty affects lower income individual's access to health care facilities and the environmental agitators in those communities.¹⁸

Poverty and housing quality are closely linked and both impact asthma rates and severity. Studies have highlighted a strong relationship between housing and rental property quality and health outcomes.¹⁹ A 2004 Joint Center for Housing Studies of Harvard University report showed that

¹⁰ *Asthma*, CTRS. DISEASE CONTROL & PREVENTION (May 7, 2020), <https://www.cdc.gov/asthma/default.htm>.

¹¹ *Id.*

¹² *Asthma Surveillance Data*, CTRS. DISEASE CONTROL & PREVENTION (Mar. 24, 2020), https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm.

¹³ *See Asthma*, *supra* note 4.

¹⁴ *Id.*

¹⁵ *Asthma Prevalence*, CTRS. DISEASE CONTROL & PREVENTION (Oct. 17, 2019), <https://www.cdc.gov/asthma/data-visualizations/prevalence.htm> (showing data that illustrates that 11.7 percent of Americans, children and adults included, live below 100 percent of the federal poverty line and experience asthma. Meanwhile, 7.9 percent of Americans live between 100 to 249 percent of the federal poverty line and experience asthma. These rates are compared to the 6.8 percent of Americans who live over 450 percent of the federal poverty line and experience asthma.)

¹⁶ Roberto J. Rona, *Asthma and Poverty*, NAT'L CTR. BIOTECHNOLOGY INFO, 243. (Mar. 2000), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1745704/pdf/v055p00239.pdf>.

¹⁷ *Id.* at 231.

¹⁸ *Id.* at 241.

¹⁹ *See* James K. Krieger et al., *The Seattle-King County Healthy Homes Project: Implementation of a Comprehensive Approach to Improving Indoor Environmental Quality for Low-income Children with Asthma*, 110 ENVTL. HEALTH PERSPECTIVES 311 (2002).

approximately one in ten low-income families live in inadequate housing.²⁰ Nearly half of these reported families spend more than half their income on their housing payments,²¹ which makes it challenging to fix housing inadequacies.²²

Substandard housing and poor indoor air quality are linked to increased allergen exposure and sensitization,²³ which result in greater asthma morbidity and mortality for low-income individuals.²⁴ Poor quality housing often has mites, mold, and cockroaches, and cracks allow for bugs and rodents to enter the property.²⁵ Further, poor ventilation leads to high concentrations of tobacco smoke, carbon dioxide, and allergens.²⁶ In addition to lower-income families living in substandard housing with higher amounts of pests and environmental exposures, underresourced neighborhoods are often situated next to highways and bus depots, resulting in diesel fumes and particulate matter entering the home.²⁷ One study found that roughly thirty-nine percent of doctor-diagnosed asthma cases among children could be avoided by eliminating these environmental exposures.²⁸

The links between poverty, substandard housing, and asthma have a significant impact for low-income individuals during the COVID-19 pandemic. Many low-income individuals and families confront substantial challenges that prevent them from adequately protecting themselves and others from COVID-19.²⁹ During this time of social distancing, many Americans have been relegated to working from home and limiting time in public. While many low-income individuals are unable to work from home, those who are able to stay at home may face living in unsafe housing conditions or risk their housing security because they have lost their jobs.³⁰ Being largely confined to their houses can increase allergen exposure, worsen the severity of asthma symptoms, and make it more difficult to manage asthma.³¹ An initial review of COVID-19 cases showed that people with chronic lung diseases, like asthma, are at increased risk of hospitalization for

²⁰ *The State of the Nation's Housing 2004*, JOINT CTR. HOUS. STUDIES HARV. UNIV., at 4 <https://www.jchs.harvard.edu/sites/default/files/son2004.pdf>.

²¹ *Id.* at 19.

²² See W.D. Miller et al., *Healthy Homes and Communities: Putting the Pieces Together*, 40 AM. J. PREVENTIVE MED. S48, S51 (2011).

²³ See U.M. Sahiner et al., *The Spectrum of Aeroallergen Sensitization in Children Diagnosed with Asthma During the First 2 Years of Life*, 34 ALLERGY & ASTHMA PROC. 356 (2013).

²⁴ See J. Northridge et al., *The Role of Housing Type and Quality in Urban Children with Asthma*, 87 J. URBAN HEALTH 211, 212 (2010).

²⁵ *Id.* at 212.

²⁶ See Krieger, *supra* note 19, at 312.

²⁷ See Miller, *supra* note 22, at S51.

²⁸ B.P. Lanphear et al., *Residential Exposures Associated with Asthma in US Children*, 107 PEDIATRICS 505 (2001).

²⁹ See Emily A. Benfer & Lindsay F. Wiley, *Health Justice Strategies to Combat COVID-19: Protecting Vulnerable Communities During a Pandemic*, HEALTH AFFAIRS (Mar. 19, 2020), <https://www.healthaffairs.org/doi/10.1377/hblog20200319.757883/full/>.

³⁰ Abha Bhattarai et al., *The First U.S. Layoffs from the Coronavirus Are Here*, WASH. POST, (Mar. 11, 2020), <https://www.washingtonpost.com/business/2020/03/11/layoffs-coronavirus/>.

³¹ See Benfer & Wiley, *supra* note 29.

COVID-19.³² Thus, those with asthma who are lower income are at higher risk of COVID-19 complications, and being forced to stay at home will make outcomes worse by potentially increasing asthma symptoms, lung damage, and consequently more severe COVID-19 outcomes. To address asthma patients who are lower-income, the government must engage in asthma-friendly initiatives that reduce environmental asthma triggers while people spend more time at home and thereby mitigate some COVID-19 complications.

Prevention Orientation

Wide-scale asthma treatment measures and COVID-19 response efforts demand commitment from the government, clinicians, and community members to support particularly vulnerable individuals, such as those who are low-income. The health justice approach to reducing asthma symptoms and further decreasing the harm from COVID-19 involves using community programming and policy to eliminate health disparities.³³ The prevention orientation lens for targeting asthma requires cooperation from federal, state, and local governments and community partners to promote asthma education programs, implement community-led initiatives, and support asthma-friendly home construction.³⁴ Below, this article will examine how these three methods can improve asthma management, which in turn will reduce COVID-19 harms during future pandemic waves.

Asthma tends to be less controlled among individuals who have lower health literacy, difficulty understanding information regarding asthma and housing conditions, and lack of access to health services.³⁵ However, educational programs led by community health workers and treatment action plans may improve asthma management.³⁶ The study found that the group who had received high-intensity training showed significant improvement in dust control measures, vacuuming, use of allergy control covers, use of mattress and pillow covers for dust mites, and use of doormats.³⁷ Additionally, the higher-intensity group demonstrated a marked decrease in household condensation, roaches, and dust weight; this group's asthma trigger composite score decreased by 0.37 points (from 1.56 to 1.19) compared to the lower-intensity group's score decrease by 0.20 points (from 1.65 to 1.43).³⁸ This demonstrates that educational trainings led by community health workers are an effective measure to reduce asthma trigger exposure in low-income individuals.³⁹

³² See *Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019 – United States, February 12-March 28, 2020*, CTRS. DISEASE CONTROL & PREVENTION (Apr. 2020), https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e2.htm?s_cid=mm6913e2_w.

³³ See Benfer & Wiley, *supra* note 29.

³⁴ See Benfer & Wiley, *supra* note 29.

³⁵ I. Poureslami et al., *Effectiveness of Educational Interventions on Asthma Self-Management in Punjabi and Chinese Asthma Patients: A Randomized Controlled Trial*, 49 J. ASTHMA 542 (2012).

³⁶ Tim K. Takaro et al., *Effect of Environmental Interventions to Reduce Exposure to Asthma Triggers in Homes of Low-income Children in Seattle*, 14 J. EXPOSURE SCI. & ENVTL. EPIDEMIOLOGY 14 (2004).

³⁷ See *id.* at 14 (examining disparities between a group that had received high-intensity training on asthma triggers and a second group that received low-intensity training).

³⁸ *Id.*

³⁹ *Id.*

Community-sponsored initiatives, like Massachusetts’s Breathe Easy at Home intervention, have called upon community stakeholders and improved both the home environment and asthma outcomes for the projects’ participants.⁴⁰ Massachusetts’s Breathe Easy at Home initiative encourages clinicians to refer patients to the Boston Inspectional Service if the clinicians suspect housing conditions trigger asthma symptoms.⁴¹ Because the home is a focus for asthma interventions, many health care providers have recommended programs that involve home visits which aim to identify and reduce asthma triggers.⁴² One review found that these interventions yielded improvements in “symptom-free days, reductions in school days missed because of asthma, and reduction in acute care visits.”⁴³ Because asthma is a complicated, multi-factorial condition, the best programs require care coordination across community stakeholders.⁴⁴

The most effective asthma programs engage with community organizations, integrate with local clinics, provide asthma training to practitioners, collaborate with government, respect patients’ cultures, and include assessments of the home environment.⁴⁵ Community-coordinated programs, like Breathe Easy at Home, involve social workers and community health workers who perform home visits, clinicians who screen asthmatic patients, and building inspectors who report building owners whose rental properties contain asthma triggers.⁴⁶ Effective interventions include components such as integration with general practitioner care, collaboration between community organizations, and a patient support team made of doctors and community health workers.⁴⁷ As examined above, asthma disproportionately impacts low-income populations, and many lower income individuals lack health care resources and are burdened with higher environmental pollutants and poor housing quality.⁴⁸ With that in mind, these multi-component interventions are effective because they provide community level action that engages both patients and stakeholders; they also incorporate building inspectors to hold property owners responsible for correcting violations.⁴⁹

Asthma-friendly public housing developments drastically improve asthma symptoms and increase individuals’ ability to manage their condition. Seattle’s Breathe-Easy Home project, which

⁴⁰ Anna Rosofsky et al., *Breathe Easy at Home: A Qualitative Evaluation of a Pediatric Asthma Intervention*, GLOBAL QUALITATIVE NURSING RES. (Nov. 16, 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5342293/>.

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.* (citing D.D. Croker et al., *Effectiveness of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review*, AM. J. PREVENTATIVE MED. (Aug. 2011), <https://www.ncbi.nlm.nih.gov/pubmed/21767736/>.)

⁴⁴ *Id.*

⁴⁵ *Id.* (citing Clark et al., *Characteristics of successful asthma programs*, PUB. HEALTH REPS. (2009), <https://www.ncbi.nlm.nih.gov/pubmed/19894421/>).

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ G. Adamkiewicz et al., *Moving Environmental Justice Indoors: Understanding Structural Influences on Residential Exposure Patterns in Low-Income Communities*, AM. PUB. HEALTH J. (Dec. 2011), <https://www.ncbi.nlm.nih.gov/pubmed/21836112/>; L.C. Messer et al., *The Development of a Standardized Neighborhood Deprivation Index*, J. URB. HEALTH (Nov. 2006), <https://www.ncbi.nlm.nih.gov/pubmed/17031568/>.

⁴⁹ See Rosofsky, *supra* note 40.

transformed a public-housing redevelopment project into asthma-friendly homes, serves as a model for asthma-friendly public works.⁵⁰ While education programs and home visits by community health workers help asthma patients implement actions that reduce asthma triggers and help manage the disease, substandard housing remains a barrier to optimal asthma management for low-income individuals.⁵¹ The High Point development in Seattle is an example of how Breathe-Easy Homes can significantly improve asthma management. When the High Point community was redeveloped, a subset of the housing units was designated as Breathe-Easy Homes.⁵² All High Point homes included energy efficient features and use of sustainable products, but the Breathe-Easy Homes contained additional features.⁵³ Eligibility criteria for the Breathe-Easy Homes group consisted of the presence of a child aged two to seventeen years with diagnosed persistent asthma, eligibility for residence in Seattle Housing Authority housing, and residence in King County, Washington.⁵⁴ Eligibility for the remaining High Point homes consisted of the presence of a child aged three to thirteen with diagnosed persistent asthma, income below two hundred percent of the 2001 federal poverty line, and residence in King County, Washington.⁵⁵ After one year of living in the Breathe-Easy Homes, participants reported fewer urgent care visits, more symptom-free days, and decreased exposure to asthma triggers compared to families who received evidence-based home education.⁵⁶ This suggests that the Breathe-Easy Home intervention provided benefits beyond the benefits provided by in-home asthma education alone.⁵⁷

The asthma interventions outlined in the Prevention Orientation section of this Article require the government to provide individuals with education programs and safe housing options, which goes against the typical human rights framework in the United States that protects negative rights instead of providing positive rights.⁵⁸ The prevailing understanding of the United States Constitution is that it guarantees only negative rights, which stands in contrast to the positive rights to health and fundamental necessities of life promised by many other countries, such as those who have ratified the International Covenant on Economics, Social and Cultural Rights (ICESCR).⁵⁹

⁵⁰ Tim K. Takaro et al., *The Breathe-Easy Home: The Impact of Asthma-Friendly Home Construction on Clinical Outcomes and Trigger Exposure*, AM. J. PUB. HEALTH (Jan. 2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3000722/>.

⁵¹ See *id.*; *Community Preventive Services Task Force Publishes Findings on Home-based Asthma Programs*, COMMUNITY GUIDE, <https://www.thecommunityguide.org/content/task-force-publishes-findings-on-home-based-asthma-programs> (last visited Aug. 28, 2020).

⁵² See Takaro, *supra* note 50.

⁵³ *Id.* (“[A]dditional features include (1) an enhanced exterior envelope to optimize moisture-proofing; (2) interior finishes, flooring, and other materials that minimized dust accumulation and off-gassing; and (3) an energy-efficient heat-exchange ventilation system with filtration and continuous fresh air supply . . .”).

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Peter Sagal, *Constitution USA with Peter Sagal*, PBS, <https://www.pbs.org/tpt/constitution-usa-peter-sagal/rights/#.Xyx7DJ5KhPY> (stating that negative rights say what the government cannot do; positive rights, conversely, mandate the government to provide jobs, education, and healthcare).

⁵⁹ *Id.*; Office of the High Commissioner for Human Rights, *International Covenant on Economic, Social and Cultural Rights*, U.N. HUM. RIGHTS OFFICE HIGH COMM’R,

While Article 12 of the ICESCR requires governments to respect, protect, and fulfill the right to health for their citizens, the United States, which has not ratified the Convention, imposes no such requirements.⁶⁰ Despite no express commitment to promise the right to health, Congress has passed legislation that creates entitlement programs like Medicare, Medicaid, the Supplemental Nutrition Assistance Program, and public housing. Because Congress has created the statutory framework for promising positive rights like food, healthcare, and housing, it may be possible to pass a law creating an entitlement program for asthma-protective measures.

Passing new legislation or amending existing legislation can be delayed, especially during the COVID-19 pandemic. Congress may delegate power to agencies and empower them to promulgate a rule, which may be a more efficient way to create an entitlement program.⁶¹ Congress's ability to delegate legislative power to agencies facilitates the executive branch's ability to make agency rules that more efficiently and effectively address an issue.⁶² Once the agency has been delegated authority through an authorizing statute, it may use its informal rule-making powers to propose a new rule regarding asthma-friendly initiatives.⁶³ Thus, for example, the Department of Housing and Urban Development, which would likely have jurisdiction over this program, may rely on its existing statutory authority to promulgate rules allowing for expanded grant programs and promoting asthma-friendly construction projects like Seattle's Breathe-Easy Home intervention.

Like Medicaid and the Supplemental Nutrition Assistance Program, asthma-friendly initiatives to help individuals with lower-incomes manage asthma and further reduce the severity of a COVID-19 infection would likely be an entitlement program. Although the United States has not ratified any international treaties that require a State to provide healthcare or housing,⁶⁴ it has passed domestic legislation and regulations consistent with some of the principles outlined in Article 12 of ICESCR, including the obligation to fulfill health needs by allocating resources to vulnerable and marginalized individuals.⁶⁵ The United States has created federal, state, and local entitlement programs to provide eligible individuals with access to food, housing, and healthcare, which enables these individuals to enjoy widely recognized human rights.⁶⁶

If the government were to create an entitlement program that protects low-income individuals and provides action plans created by clinicians, a community health care worker serving as a case manager, and even an asthma friendly home, due process rights would attach. Qualification for welfare or entitlement programs, which is what this proposed program would be, is based on

<https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx> [hereinafter *International Covenant*]. Article 12 requires countries who have ratified ICESCR to recognize “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health” and take necessary steps to fulfill this. *Id.*

⁶⁰ *Id.*

⁶¹ *Delegation Doctrine Law and Legal Definition*, USLEGAL, <https://definitions.uslegal.com/d/delegation-doctrine/> (last visited Aug. 6, 2020).

⁶² Michael Asimow & Ronald M. Levin, *State and Federal Administrative Law* 429–30 (4th ed. 2014).

⁶³ *Id.* at 266.

⁶⁴ *United States Ratification of International Human Rights Treaties*, HUM. RTS. WATCH, <https://www.hrw.org/news/2009/07/24/united-states-ratification-international-human-rights-treaties#>.

⁶⁵ See *International Covenant*, *supra* note 59.

⁶⁶ *Id.*

need,⁶⁷ because those in need of these asthma benefits are lower-income, this is consistent with existing welfare-style entitlement programs. Under *Goldberg v. Kelly*, procedural due process rights attach to these sorts of benefits, and beneficiaries are entitled to uninterrupted services of essential food, clothing, housing, and medical care.⁶⁸ Additionally, *Mathews v. Eldridge* reinforced the idea that these benefits give rise to a property right and that procedural due process protections apply.⁶⁹ To ensure proper procedure is given, courts will consider the individual's interest in retaining her benefits and the degree to which she would be harmed if deprived, the strength of the government interest, and the risk of error under current procedures and how additional procedures could reduce the risk of error.⁷⁰ Because the strategies outlined in the prevention orientation section of this Article mirror government entitlement programs, the due process framework proposed in *Goldberg* and *Mathews* would apply to government-sponsored asthma programs. This is an important consideration for how governments might address these programs because it may create an increased administrative burden for the state.⁷¹

An asthma friendly program that engages community partners and state and local officials requires government funding for the success and longevity of the program. Congress currently allocates funding annually to address lead hazards, and it could also allocate similar funds to address allergens and asthma triggers and create healthy homes programs.⁷² Currently, the Department of Housing and Urban Development (HUD) uses funds to provide grants to states for lead control and elimination.⁷³

While the Department of Housing and Urban Development cannot rely on the grant programs authorized by the Lead-Based Paint Hazard Reduction Act, there are other grant programs available to fund asthma-friendly initiatives. The Healthy Homes Supplemental Funds provide grants to non-profits, for-profit firms, and state and local governments to remediate home-based environmental hazards that lead to asthma episodes and prevent proper condition management.⁷⁴ In 2018, HUD proposed to use these funds to mitigate hazardous conditions in 6,700 low-income older homes and make these homes healthier.⁷⁵ The proposed Breathe-Easy Homes projects fall into HUD's objectives and requirements for this grant program, and thus would likely be funded through the Healthy Homes Supplemental Funds.

Beyond supplemental funds, these projects could rely on the Community Development Block Grant Program. This program supports safer housing in lower-income communities, and the funds

⁶⁷ See Asimow & Levin, *supra* note 62, at 17.

⁶⁸ *Id.*; *Goldberg v. Kelly*, 397 U.S. 254 (1970).

⁶⁹ *Mathews v. Eldridge*, 424 U.S. 319 (1976) (requiring the government to go through certain procedures before terminating an individual's benefits).

⁷⁰ *Id.*

⁷¹ *Id.* at 335.

⁷² Emily A. Benfer et al., *The Duty to Protect: Enhancing the Federal Framework to Prevent Childhood Lead Poisoning and Exposure to Environmental Harm*, YALE J. HEALTH POL'Y L. & ETHICS (2019), <https://www.greenandhealthyhomes.org/wp-content/uploads/Duty-to-Protect.pdf>.

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

may be used directly to fund asthma-trigger identification and abatement activities.⁷⁶ This program can be used as an opportunity to give federal support to local organizations and agencies designed to reduce and eliminate environmental hazards.⁷⁷ Funds from this program could be used to support increased asthma-friendly community partnerships and construction projects.

The projects outlined in the Prevention Orientation section can be authorized by Congress, administered by agencies, and considered an entitlement for its beneficiaries. These programs can be funded through HUD grant programs and supplemental funds, as well as funding from other government agencies. Funding and coordination between federal, state, and local governments will contribute to the success of these initiatives, thus reducing environmental asthma triggers, improving the health of lower-income asthma patients, and hopefully mitigating some risk associated with COVID-19 infections.

Conclusion

Asthma is a non-curable condition that disproportionately impacts lower-income individuals and, along with other social and economic factors, places these individuals at higher risk for COVID-19 infection complications.⁷⁸ While there is no cure for asthma, lower-income individuals can see lower rates of the condition and improved condition management with education by community health workers, partnerships between community groups and local governments, and government-funded healthy homes projects. With cooperation between federal, state, and local governments, adequate funding, and input from community members, asthma-friendly initiatives can be implemented to improve condition management and subsequently decrease severe COVID-19 health outcomes.

⁷⁶ *Id.*

⁷⁷ See Benfer, *supra* note 72.

⁷⁸ *People with Certain Medical Conditions*, CTRS. DISEASE CONTROL & PREVENTION (July 17, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#asthma>.