PI	Grant Number	Project Officer	Project	EHEA Question	Finding	Publication
Oliver Deschenes	R21ES019375	Caroline Dilworth	Using Medication Purchases to Measure the Health Consequences of Air Pollution	How does air pollution/ozone impact medication purchases (as a cost of climate change)?	Our preliminary results suggest that reductions in NOx emissions decreased the number of summer days with harmful ozone levels by more than 35%. Further, we also find that these improvements in air quality produced substantial short run health benefits. Drug expenditures decreased by about 1.6% (2.5% percent for respiratory drugs). Additionally, the mortality rate declined by approximately 1.6%, indicating that there were about 7,000 fewer premature deaths per year, mainly among individuals 75 and older.	Deschenes, Oliver, Michael Greenstone and Joseph S. Shapiro. "Defensive Investments and the Demand for Air Quality: Evidence from the NOx Budget Program and Ozone Reductions" Publicly available as an NBER Working Paper (No. 18267 available at http://www.nber.org/papers/w18267) since August 2012.
Ella Hahn	R01ES021502	Caroline Dilworth	FRESH: Dual Home Screening for Lung Cancer Prevention	What influences homeowners/renters to take radon mitigation action?	No findings, yet.	No publications, yet.
James Kreiger	R01ES014583	Caroline Dilworth	HomeBASE (Home-Based Asthma Support and Education for Adults)	Do home-based interventions improve asthma symptom management in EJ communities?	Preliminary analysis indicates a significant difference in symptom free days, with participants in the intervention group experiencing 2.1 more symptom free days in the previous two weeks than the control group participants. There was also a significant difference in quality of life scores and asthma control between groups, with the intervention group scoring higher for both measures than the control group. Preliminary results also indicate that participants in the intervention group had better medication use, better dust control in their homes, fewer pets in their homes and more consistent use of an action plan than the control group.	No publications, yet.

PI	Grant Number	Project Officer	Project	EHEA Question	Finding	Publication
Matthew Neidell	R21ES019670	Caroline Dilworth	The Impact of Environmental Conditions on the Productivity of Agricultural Worker	How is agricultural worker productivity impacted by extreme heat events/ ozone levels?	Our main finding was that a 10 parts per billion increase in ozone lowers worker productivity by 5.5 percent. We also extended this aim by collaborating with two other economists to examine the relationship between environmental conditions and worker productivity, focusing on indoor manufacturing in a factory setting. Our main finding was that fine particulate matter significantly decreases indoor worker productivity, thus offering an important extension to a more sizeable sector of the United States economy. We also explored whether several factors moderated the relationship between ozone and worker productivity. We found that worker experience did not moderate the relationship, suggesting more experienced workers do not appear any better able to moderate the impacts of ozone. We found that, contrary to much laboratory evidence, ozone had a smaller impact on the productivity of female workers, though the magnitude of this difference was very small. These findings have been widely disseminated at various academic and policy seminars. In the short period since publication, this work has been influential on policy, as evidenced by recent efforts to incorporate the main estimates into both Regulatory Impact Analyses and the Environmental Benefits Mapping	Graff Zivin, Joshua, and Matthew Neidell. 2012. "The Impact of Pollution on Worker Productivity." *American Economic Review*, 102(7): 3652-73. Graff Zivin, Joshua, and Matthew Neidell. 2013. "Environment, Health, and Human Capital." *Journal of Economic Literature,* 51(3): 689-730. Chang, Tom, Joshua Graff Zivin, Tal Gross, and Matthew Neidell. 2014. "Particulate Pollution and the Productivity of Pear Packers." Publicly available as an NBER Working Paper: (No. 19944 available at http:// http://www.nber.org/papers/w19944) since February 2014.

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					and Analysis Program (BenMAP) managed by the Environmental Protection Agency.	
Thomas Arcury	R13ES023709	Liam O'Fallon	Farmworker Housing Quality and Health: A Transdisciplinary Conference	Conference on Farmworker Housing Quality and Health	No findings, yet.	No publications, yet.
Takuji Tsukamoto	R43ES020665	Dan Shaughnessy	Smart adsorption system for removal of toxic, organic chemicals from drinking water	How do we reduce the cost of removing multiple types of organic toxins in drinking water?	Our arsenic-removing filter can be used in point of use water filtration modules or large-scale municipal water treatment plants. We will license our filter to established filtration companies with a strong presence in the US (~$3B) and global (>$30B) water filtration markets. Our filter will benefit the ~ 70 million Americans drinking water with unsafe levels of arsenic as well as the millions of residents of arsenic-rich Thailand, Indonesia, and Africa.	A provisional patent application has been filed (application #61802514; filed March 16, 2013) on our invention titled "Selective Adsorbent Fabric for Water Purification". This technology facilitates removal of harmful substances from drinking water, to help people protect themselves from harmful exposures.
Andrew Feiring	R43ES022870	Dan Shaughnessy	Enhanced Membrane Systems for Supplying Quality Drinking Water	How do we reduce the cost of removing multiple types of organic toxins in drinking water?	No findings, yet.	No publications, yet.
Sharon Croisant	U19ES020676	Claudia Thompson	Community Health Assessment of Risks associated with the Macondo Spill	What is the impact of the Macondo Oil Spill on the Gulf seafood industry and safe consumption of fish?	No findings, yet.	No publications, yet.
John Glen Morris	U19ES020683	Claudia Thompson	Health Impact of Deepwater Horizon Spill in Eastern Gulf Coast Communities	What are the community disruption effects of the Gulf Oil Spill?	No findings, yet.	No publications, yet.

PI	Grant Number	Project Officer	Project	EHEA Question	Finding	Publication
Frederica Perera	P01ES009600	Kim Gray	Children's Center Project	What are the cost estimates of the impact of maternal exposure to air pollution on children's IQ?	Finding: Reducing air pollution in New York City would result in substantial economic gains for children as a result of increasing their IQs. The study is the first to estimate the costs of IQ loss associated with exposure to air pollution, and is based on prior research on prenatal exposure to air pollutants among low-income children by Frederica Perera, PhD, lead author of the current study, and colleagues at the Columbia Center for Children's Environmental Health at the Mailman School of Public Health.	Frederica Perera, Katherine Weiland, Matthew Neidelld, and Shuang Wang. 2014. Prenatal exposure to airborne polycyclic aromatic hydrocarbons and IQ: Estimated benefit of pollution reduction. *Journal of Public Health Policy*. 35(3): 327-36. doi: 10.1057/jphp.2014.14.
Jonathan Levy	R21ES017522	Caroline Dilworth	A Discrete Event Simulation Model of Environmental Exposures and Pediatric Asthma	Interventions in pediatric asthma	CONTAM model is a well-accepted and validated modeling framework for characterizing the effect of changes in ventilation or other indoor environmental interventions on pollutant concentrations. Dr. Levy was recently involved in a study applying CONTAM to model the benefits of residential interventions that influence both air exchange and filtration 45. In this study, seven single-family CONTAM templates were used to characterize homes in three metropolitan areas of Ohio, with modifications to the templates to allow for formal evaluation of the effects of window opening on natural ventilation and subsequent IAQ. In addition, a regression approach was utilized to identify the determinants of indoor concentrations given the inputs and outputs of CONTAM. Variability in simulated indoor concentrations of PM2.5 of outdoor origin was well explained by outdoor PM2.5, air handler unit operating	Fabian MP, Adamkiewicz G, Stout NK, Sandel M, Levy JI. (2014.) A simulation model of building intervention impacts on indoor environmental quality, pediatric asthma, and costs. J Allergy Clin Immunol;133(1):77-84. doi: 10.1016/j.jaci.2013.06.003.

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					time, and ventilation configuration (R2 = 0.60).	
James West	R21ES22600	Caroline Dilworth	Climate Change and Future Air Pollution Mortality: Exploration of Scenarios	What are the modeling impacts of climate change adaptation?	Analyzed the global air quality and health co-benefits of global actions to reduce GHG emissions. Compared a reference scenario to 2100 with no climate policy with an aggressive scenario (RCP4.5) that reduces global GHG emissions significantly through actions implemented throughout the world, having a strong influence on the global climate. Results indicate that this GHG reduction strategy would avoid 0.5¿0.2 million air pollution-related deaths in 2030, 1.3¿0.5 in 2050, and 2.2¿0.8 in 2100. We further monetized the health co-benefits finding a global average co-benefit of US$50-380 per metric ton of CO2.	West, J. J., S. J. Smith, R. A. Silva, V. Naik, Y. Zhang, Z. Adelman, M. M. Fry, S. Anenberg, L. W. Horowitz, and J.-F. Lamarque. (2013). Co-benefits of global greenhouse gas mitigation for future air quality and human health, *Nature Climate Change*, 3, 885-889, doi:10.1038/NCLIMATE2009. (PMCID in progress)