

Note to the Coalitions**CHILDREN'S ENVIRONMENTAL HEALTH:
ASTHMA AND LEAD POISONING
IN NEMW STATES AND CITIES**

Children face disproportionate risks from environmental hazards, such as air pollution, lead paint, and chemicals. Children's bodies and brains are still developing and, when compared to adults, they more frequently put their hands and objects in their mouths, are generally closer to the ground, and have less capacity to communicate problems. In relation to body weight, children "breathe more air, consume more food, and drink more water than adults."¹ This *Note* focuses on two leading threats to children's health, both of which can be exacerbated by environmental conditions in older industrial cities. Specifically, it describes the prevalence of asthma and lead poisoning among children in Northeast-Midwest (NEMW) states, compares rates in NEMW states to those in other states and the nation, and explains connections between cities and these health threats.

ASTHMA

Asthma affects millions of Americans each year. It is one of the most common chronic conditions among children. In 2010, 7 million U.S. children aged 17 and under (10%) suffered from asthma and 14% had ever been diagnosed. Asthma prevalence rates are higher among black children and multiracial children than white children. Among Hispanic children, the prevalence rate is highest among Puerto Ricans. Asthma is also more common among children in low-income families.^{2,3} Asthma in general—and children's asthma, in particular—is a public health burden. The illness is a leading cause of hospitalization for children and a significant source of healthcare spending.^{4,5} The illness is also costly in terms of school absences; in 2008, asthma resulted in 10.5 million missed school days among children aged 5-17.⁶ There is no cure, but management is possible.

What is the connection between cities and childhood asthma?

Although the root causes of asthma are still unknown, experts identify several triggers of asthma attacks. The most common triggers are: tobacco smoke; dust mites and cockroach allergen; pet fur; mold; and outdoor air pollution and smoke from burning wood or grass.⁷ Rates of asthma morbidity and mortality are particularly high in inner-cities, which tend to be characterized by populations with low socioeconomic status and disproportionate presence of both indoor and outdoor allergens: cockroaches, mold, higher traffic exposure and thus motor vehicle emissions, and higher concentrations of pollutants.^{8,9,10}

How do asthma rates among children in the NEMW region compare to rates in other regions and the nation, generally?

Many NEMW states have prevalence rates (the percent of children with asthma) higher than the U.S. total (38 states + DC) rate. Maryland, Rhode Island, Connecticut, and Michigan are among the

*Prepared by: Colleen Cain, PhD, Senior Policy Analyst, Northeast-Midwest Institute (ccain@nemw.org) and Kate Ostrander, Legislative Director, Northeast-Midwest Congressional Coalition

top ten states for current children’s asthma rates. Prevalence estimates are determined by a large telephone survey administered by the U.S. Centers for Disease Control and Prevention (CDC) each year. The 2010 children’s asthma data reflects information from randomly-selected households in 40 states or territories that were asked questions specifically on childhood asthma.¹¹

Child Current Asthma Prevalence Rate by State, 2010

State	Prevalence Rate (%)
District of Columbia	18.0
Maryland	11.9
Rhode Island	11.8
Alabama	11.5
Connecticut	11.3
Hawaii	11.1
Michigan	11.1
Missouri	10.9
Kentucky	10.7
Oklahoma	10.2
Vermont	10.0
Illinois	9.8
Pennsylvania	9.6
Massachusetts	9.5
Arizona	9.4
Ohio	9.2
Georgia	9.0
New Jersey	9.0
Wisconsin	8.9
Indiana	8.8
Mississippi	8.6

Nevada	8.6
Maine	8.5
Total*	8.4
Louisiana	8.3
New Mexico	8.0
Oregon	7.6
Texas	7.6
Kansas	7.5
New York	7.4
Montana	6.9
Utah	6.9
Wyoming	6.6
West Virginia	6.5
North Dakota	6.4
Tennessee	6.4
Iowa	6.2
Nebraska	6.1
Washington	6.0
California	5.9

* Total = 38 states + DC, excluding Puerto Rico
Source: CDC BRFSS, 2010

Each year, the Asthma and Allergy Foundation of America creates a ranking of “asthma capital” cities. In addition to prevalence, the Foundation uses risk factors, such as air quality and smoking laws, and medical factors, such as medication use, to rank potential for asthma occurrence among the 100 most populated U.S. metro areas. In 2012, four of the top ten “asthma capitals” are in two Northeast-Midwest states: New Haven and Hartford in Connecticut; Pittsburgh and Allentown in Pennsylvania.

Top Ten Asthma Capitals, 2012

Rank	City
1	Memphis, TN
2	New Haven, CT
3	Knoxville, TN
4	Pittsburgh, PA
5	Chattanooga, TN
6	Hartford, CT
7	St. Louis, MO
8	Oklahoma City, OK
9	McAllen, TX
10	Allentown, PA

Source: Asthma and Allergy Foundation

LEAD POISONING

Lead poisoning is the most common environmental hazard for U.S. children six years of age and younger.¹² High levels of lead exposure can cause severe mental disabilities, and at times death, but even low levels of exposure pose health and developmental risks to children, ranging from headaches and stomach pain to behavioral and learning disabilities.¹³ The CDC recently lowered the maximum acceptable lead level (i.e., the level at which the CDC recommends public health interventions) for children six years of age and younger from 10 micrograms per deciliter of blood (mcg/dL) to 5 mcg/dL.¹⁴

Efforts to reduce children's exposure to lead appear to have significantly decreased the percentage of U.S. children with confirmed blood lead levels (BLL) ≥ 10 mcg/dL since the late 1970s. Federal policies contributed greatly to this trend: federal regulations phased out leaded gasoline beginning in the early 1970s; banned in 1978 residential lead-based paint and in 1986 lead in plumbing; and established national standards for lead dust and soil hazards in 2001.¹⁵

What are the sources of childhood lead exposure and their connection with NEMW cities?

Unlike with asthma, the root cause of lead poisoning is known. The most common source of lead poisoning is ingested lead-based paint.¹⁶ Other sources include contaminated dust, drinking water, and dirt.¹⁷ In particular, leaded gasoline, used in the U.S. between 1923 and 1995, contaminated roadside soil, which is re-suspended by traffic on busy city transportation corridors.^{18,19} Airborne emissions from industry, incinerators, and smelters can also contain lead dust.²⁰

Sources of lead poisoning are particularly prevalent in older cities, like many of those in the NEMW region, because of their old housing stock and aging infrastructure inside and outside the home. Such sources include:

- Flaked, chipped, or peeled lead-based paint, which was used in homes until banned in 1978;
- Lead in old water pipes or faucets, which can leach into drinking water, as can leaded solder, which was legal through the 1980s;²¹
- The partial (as opposed to full) replacement of lead service lines that feed water to residents' taps, a process that can shake lead particles loose during construction and increase the amount of lead in drinking water due to galvanic corrosion at the new connection to a copper line;²² and
- Contaminated soil around a home if its exterior was painted with lead-based paint, the dust from which can also get into homes.²³

How do lead poisoning rates among children in the NEMW region compare to rates in other regions and the nation, generally?

This question cannot be answered directly due to a lack of comparable blood lead level data. However, a regional concentration of major sources of lead exposure suggests that those living in the NEMW region's older cities are at greater risk of exposure than those in other regions.

Blood lead level screening, collection, and reporting methods are not uniform across states:

State surveillance systems are based on reports of blood lead tests from laboratories. Ideally, laboratories report results of all blood lead tests, not just elevated values, to the state health

[†] The threshold for children is lower than the threshold for adults because children's developing brains are particularly vulnerable to damage from lead.

department. States, however, determine the reporting level for blood lead tests and decide which data elements should accompany the blood lead test result.²⁴

The information that state and local health departments collect is then compiled through the CDC's national surveillance system, according to *its* definitions and classifications, which may differ from those of individual states.

Since some children face more risk than others, it is common for states to screen a targeted sub-population, such as children who live in areas with a relatively high percentage of older homes. The greatest percentage of children tested in any state in 2010 was just over half. Among all states, Massachusetts tested the highest percentage of children in 2010, followed by Rhode Island (41%). Among NEMW states, children in Indiana were the least likely to be tested in 2010 (just over 10%). Nevertheless, most NEMW states tested a greater percentage of children than the percentage tested in the U.S. overall.

Number and Percent of Children Tested, U.S. Total and NEMW States, 2010

State	Population < 72 months old	Number of Children Tested	Percent of Children Tested
MA	442,592	226,260	51.12%
RI	69,386	28,143	40.56%
CT	245,428	82,324	33.54%
IA	242,345	80,374	33.17%
MD	437,188	114,857	26.27%
VT	38,743	9,965	25.72%
NJ	652,622	148,094	22.69%
WI	431,404	94,197	21.83%
MN	427,426	89,440	20.93%
MI	720,314	144,377	20.04%
OH	866,996	152,546	17.59%
DE	67,146	11,552	17.20%
NH	84,767	14,554	17.17%
PA	877,769	148,751	16.95%
U.S Total**	24,258,220	4,003,420	16.50%
ME	84,268	13,396	15.90%
IL*	1,005,860	157,621	15.67%
NY (not NYC) ⁺	1,386,618	215,049	15.51%
IN	522,074	56,446	10.81%

*Incomplete data, CDC does not have the state's complete dataset

**includes 36 states, DC, and New York City ⁺ New York City data is reported separately

Source: U.S. Centers for Disease Control and Prevention

According to the data available and using the threshold of BLL ≥ 10 $\mu\text{g}/\text{dL}$, rates in NEMW states are relatively similar to each other, ranging from .3% in Minnesota to 1.9% in Pennsylvania (see table below). The percentage of affected children varies greatly, however, when using the new, lower threshold recommended by the CDC.

Number and Percent of Children Tested and with Confirmed BLL ≥ 10 $\mu\text{g}/\text{dL}$ and ≥ 5 $\mu\text{g}/\text{dL}$, 2010

State	Population <72 mos. old	# of Children Tested	% of Children Tested	Total Confirmed BLL ≥ 10 $\mu\text{g}/\text{dL}$	Confirmed BLLs ≥ 10 $\mu\text{g}/\text{dL}$ as % of Children Tested	Total Confirmed BLL ≥ 5 $\mu\text{g}/\text{dL}$	Confirmed BLLs ≥ 5 $\mu\text{g}/\text{dL}$ as % of Children Tested
AL	365,443	39,337	10.76%	192	0.49%	2,114	5.37%
AZ	546,609	68,730	12.57%	155	0.23%	965	1.40%
CA	3,036,508	619,234	20.39%	1,284	0.21%	21,332	3.44%
CT	245,428	82,324	33.54%	784	0.95%	6,255	7.60%
DC	38,156	13,395	35.11%	97	0.72%	501	3.74%
DE	67,146	11,552	17.20%	63	0.55%	433	3.75%
FL	1,288,261	203,469	15.79%	387	0.19%	7,434	3.65%
GA	825,000	126,981	15.39%	247	0.19%	6,368	5.01%
IA	242,345	80,374	33.17%	550	0.68%	34,464	42.88%
IL*	1,005,860	157,621	15.67%	2,326	1.48%	15,150	9.61%
IN	522,074	56,446	10.81%	397	0.70%	3,686	6.53%
KS	246,178	34,141	13.87%	207	0.61%	1,864	5.46%
KY	338,977	20,190	5.96%	125	0.62%	1,008	4.99%
LA	375,722	52,430	13.95%	133	0.25%	4,465	8.52%
MA	442,592	226,260	51.12%	1,003	0.44%	12,726	5.62%
MD	437,188	114,857	26.27%	511	0.44%	4,157	3.62%
ME	84,268	13,396	15.90%	145	1.08%	13,197	98.51%
MI	720,314	144,377	20.04%	1,178	0.82%	8,958	6.20%
MN	427,426	89,440	20.93%	282	0.32%	3,371	3.77%
MS	252,345	48,335	19.15%	184	0.38%	5,549	11.48%
MO	468,264	101,695	21.72%	858	0.84%	7,174	7.05%
NH	84,767	14,554	17.17%	169	1.16%	2,628	18.06%
NJ	652,622	148,094	22.69%	1,127	0.76%	7,550	5.10%
NV	224,163	13,597	6.07%	25	0.18%	209	1.54%
NY (not NYC) ⁺	1,386,618	215,049	15.51%	2,508	1.17%	15,204	7.07%
OH	866,996	152,546	17.59%	2,009	1.32%	15,706	10.30%
OK	316,500	40,594	12.83%	147	0.36%	1,786	4.40%
OR	284,723	14,999	5.27%	45	0.30%	438	2.92%
PA	877,769	148,751	16.95%	2,816	1.89%	19,176	12.89%
RI	69,386	28,143	40.56%	369	1.31%	2,702	9.60%
TX*	2,315,927	362,894	15.67%	933	0.26%	10,746	2.96%
VA	611,895	100,489	16.42%	338	0.34%	4,095	4.08%
VT	38,743	9,965	25.72%	66	0.66%	1,052	10.56%
WA	526,207	18,111	3.44%	42	0.23%	547	3.02%
WI	431,404	94,197	21.83%	976	1.04%	9,046	9.60%
WV	125,045	10,951	8.76%	78	0.71%	811	7.41%
U.S. Totals**	24,258,220	4,003,420	16.50%	24,264	0.61%	267,262	6.68%

* Incomplete data, CDC does not have the state's complete dataset ⁺ New York City data is reported separately

** includes 36 states, DC, and New York City

Source: U.S. Centers for Disease Control and Prevention

Perhaps a better way to shed light on regional differences in exposure rates is to assess the prevalence of risk factors for lead poisoning. Older housing (built before 1950), considered a leading exposure factor, is in fact heavily concentrated in the NEMW region; NEMW states account for 13 of the top 15 places with the greatest percentage of pre-1950 housing units (among all states and DC).

% of Housing Units Built Pre-1950

Place	% Pre-1950
District of Columbia	50.8%
New York	42.2%
Rhode Island	41.4%
Massachusetts	41.3%
Pennsylvania	36.0%
Iowa	33.7%
Maine	31.9%
Vermont	31.6%
Connecticut	30.0%
Illinois	29.8%
Nebraska	28.3%
Ohio	28.1%
Wisconsin	27.5%
New Jersey	27.1%
New Hampshire	25.8%

Source: ACS 2009-2011 3-Year Estimates

States and municipalities use statutes, ordinances, and other regulatory tools to enforce federal lead poisoning prevention guidelines and standards.²⁵ Such efforts have undoubtedly contributed to reductions in blood lead levels among children. Between 1999 and 2009, when the set threshold for blood lead levels was greater than or equal to 10 µg/dL, rates of confirmed affected children in every NEMW state and in the U.S. overall decreased anywhere between 67 and 99 percent. Still, differences in exposure persist; mean blood lead levels are highest among non-Hispanic black children, children from low-income families, and children who live in older housing.²⁶ Among NEMW states, Massachusetts, Rhode Island, Ohio, and Maryland are notable for their aggressive approaches to eliminate lead poisoning. These states have incorporated such strategies as wider blood lead level screening, an emphasis on detection and mitigation of lead hazards before a child is poisoned, and greater compliance among rental property owners through a balance of incentives (such as liability protection in lead poisoning cases) and penalties (civil or criminal).²⁷

Change in Confirmed BLL ≥ 10 µg/dL in Children, U.S. Total and NEMW States, 1999-2009

State	% Change 1999-2009 Confirmed BLLs ≥10 µg/dL as % of Children Tested
MD	-99.29%
NJ	-96.45%
MN	-88.64%
MI	-87.94%
U.S.*	-87.85%
DE	-84.16%
IL	-84.11%
WI	-82.01%
OH	-81.40%
IA	-79.70%
MA	-78.65%
VT	-78.40%
PA	-77.67%
RI	-77.53%
NY (not NYC)	-75.92%
CT	-72.01%
IN	-67.89%
NH	-67.38%
ME	-67.32%

*includes 36 states, DC, and New York City

Source: U.S. Centers for Disease Control and Prevention

FEDERAL LEGISLATION AND ACTION

Lawmakers in the 112th Congress introduced a number of bills that addressed children's environmental health. Their actions build upon decades of work, notably passage of a joint resolution approved May 18, 1928, as amended (36 U.S.C. 105), recognizing a need for more coordinated action and calling for the designation of the first Monday in October as Child Health Day. More recently, the passage of the bipartisan Children's Health Act of 2000 (PL 106-310) authorized a National Institutes of Health (NIH) National Children's Study to examine the impact of environmental factors on children's health, marking one of the most comprehensive research efforts to date with a targeted focus on U.S. children's health and development from before birth to age 21, and the Study continues to receive federal funding today; in FY2012, Congress provided \$193.1 million for the National Children's Study to continue ongoing research carried out through a number of agencies.²⁸

Continuing this engagement, in the 112th Congress, introduced legislation included topics of directed grants, data collection and further research, federal and school action plans, and the authorization of additional coordinating federal government programs. These bills tend to work through U.S. Department of Health and Human Services (HHS), U.S. Environmental Protection Agency (EPA), U.S. Department of Housing and Urban Development (HUD), or U.S. Department of Education as key leaders on efforts to ensure environmental health and safety of buildings and surrounding environments. A list of key proposed legislation in the 112th Congress is available [here](#), and additional details on related federal funding through annual appropriations are available on the [NEMWI website](#). NEMW delegation members championed fully half of the 16 profiled bills; lead-sponsors hailed from Connecticut, Iowa, New Jersey, New York, Ohio, and Rhode Island.

In the 113th Congress, it is expected that a number of these bills may be reintroduced in either current or modified forms, since the majority of the bills have not received a hearing in committee, and many were referred to multiple committees for consideration. In the meantime, Congress is still completing work on Fiscal Year 2013 appropriations and has extended funds by a continuing resolution until March 27, 2013. A review of the funding of current programs, especially through the CDC, EPA, and HUD, may help inform recent history and key decisions affecting the future of these programs.

Related Federal Funding FY2011–FY2013, Asthma

Congress annually considers funding for asthma prevention and management, including programs administered by HHS/CDC and EPA.

HHS/CDC

Congress provides funding to the CDC, which administers the National Asthma Control Program. Created in 1999, this program in turn provides funding to states, cities, school programs, and non-government organizations to help them improve surveillance of asthma, train health professionals, educate individuals with asthma and their families, and explain asthma to the public. The CDC currently funds initiatives in 34 states, including all but two NEMW states²⁹; in recent years, the CDC has sought to consolidate the program with its Childhood Lead Poisoning program. The Appropriations Committees have rejected this request, stating dissatisfaction with the "few details on how the consolidated program would bridge the different models..."³⁰ and have continued to

provide separate funding. In FY2012, the National Asthma Control Program received \$25.3 million. For FY2013, the Senate Appropriations Committee has proposed level funding at \$25.3 million; the House Appropriations Committee has not yet released its proposal.

EPA

Under the Clean Air Act, Congress authorized EPA to make grants to states, local governments, and other public or private non-profit institutions to prevent air pollution, including reducing exposure to indoor air contaminants and implementing integrated pest management in and around public schools. Congress provides funds through the Interior-Environment Appropriations bill; much of the annual grant support is through the State and Tribal Assistance Grants (STAG) categorical account, which can fund projects such as pollution prevention incentive grants, and pesticides and toxic substances enforcement. In FY2012, Congress provided \$1.09 billion for these grants. For FY2013, EPA requested \$1.2 billion. The House Appropriations committee has included \$994.4 million for FY2013, including \$5 million for pollution prevention; the Senate has not released its proposal.

EPA also releases several awards during October, marking Children's Health Month; for example, EPA recently released 32 assistance agreements, totaling approximately \$1.2 million, to reduce exposure to indoor air contaminants, primarily in homes and schools. About one-third of these awards went to NEMW states.³¹

Related Federal Funding FY2005–FY2013, Lead

Congress annually considers funding for lead hazard grant programs, including programs administered by HUD, EPA, and HHS/CDC.

HUD

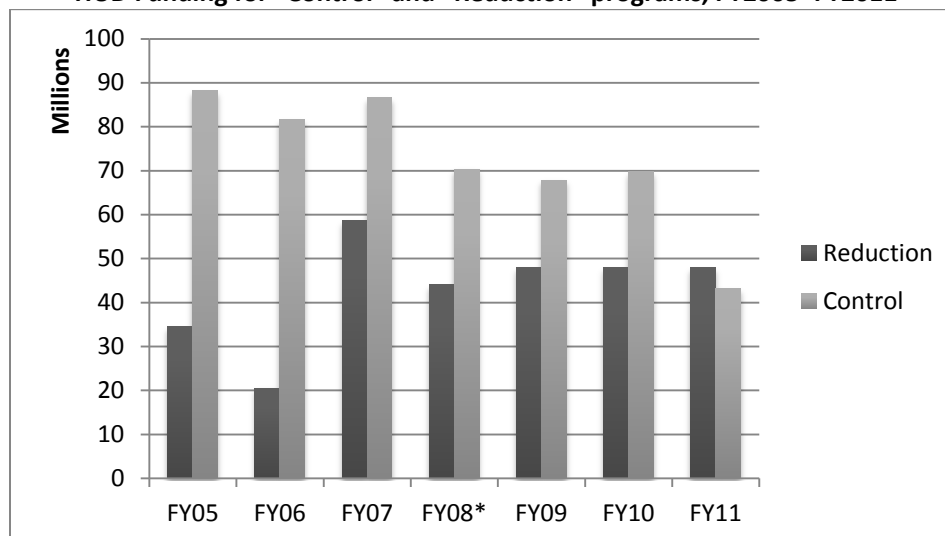
Congress has consistently provided HUD with annual funding for two grant programs administered by HUD's Office of Healthy Homes and Lead Hazard Control (OHHLHC):

- The Lead-Based Paint Hazard Control Grant ("Control") program; and
- The Lead Hazard Reduction Demonstration Grant ("Reduction") program.

These grant programs assist states, cities, counties, or other units of local government in identifying and controlling lead-based paint hazards in privately-owned rental or owner-occupied older (pre-1978) housing. The Reduction program is specifically targeted to urban jurisdictions with the greatest lead-based paint hazard control needs, including jurisdictions with higher numbers of pre-1940 rental housing and higher rates of childhood lead poisoning.

Although Congressional authorization for these grants expired September 30, 1994, HUD continues to request funds in its budget, and Congress has continued annually to appropriate funds through the Transportation, Housing, and Urban Development (THUD) Appropriations bill. HUD also administers a few additional, smaller programs within the OHHLHC to help mitigate environmental lead and asthma hazards, including the Healthy Homes Demonstration and Production Programs, Lead Technical Studies Grant Program, Healthy Homes Technical Studies Programs, and the Asthma Interventions in Public and Assisted Multifamily Housing Grant Program. NEMW states received a significant share of these OHHLHC grants in FY2011—over 60% of the total grants, and 62% of the total awarded funding.

HUD Funding for “Control” and “Reduction” programs, FY2005–FY2011



*FY08 data includes some Recovery Act (ARRA, P.L. 111-5) funding awarded in May 2009, as reported by HUD; ARRA provided funding for applications submitted under the Consolidated Appropriations Act, 2008, competitions that were qualified for award, but that had not been immediately selected for award due to funding limitations.

FY2011 OHHLHC Awards Summary³²

Program	Total Amount Awarded, U.S.	# of Awards, U.S.	Total Amount Awarded, NEMW	# of Awards, NEMW
Reduction	\$47,904,000	17	\$28,200,000	10
Control	\$45,205,971*	22	\$27,115,404	13
Healthy Homes	\$14,000,000	9	\$11,013,112	7
Lead Technical	\$500,000	2	\$0	0
Homes Technical	\$1,840,712	3	\$1,299,533	2
Asthma Intervention	\$1,309,288	3	\$1,309,288	3
TOTAL	\$110,759,971	56	\$68,937,337	35

*This funding includes \$1,999,971 of Healthy Homes Initiative funding, which HUD combined in awards to 20 grantees

For FY2013, HUD proposed to combine the Reduction and Control programs, and requested \$86 million in total program funds.³³ The House-passed bill includes the HUD request for recommending “at least” \$45 million for the Reduction program, while the Senate recommends \$48.5 million; both the House and Senate would fund the overall office at the HUD-requested level of \$120 million, but further details on the consolidation are not yet determined, as no final action on FY2013 funding has occurred.³⁴

FY2013 Funding Status for Selected Programs (in millions)

Program/Office	HUD Request	House-passed bill	Senate Committee
OHHLHC	\$120	\$120	\$120
Control	--	NA	NA
Reduction	\$86*	At least \$45	\$48.5
Healthy Homes	\$30	\$10	\$30
Lead Technical	\$4	NA	NA

*HUD’s FY2013 request proposes to consolidate the Control and Reduction programs.

EPA

EPA promotes efforts to prevent or reduce childhood lead poisoning through its competitive grant programs, including the National Community-Based Lead Grant Program, Targeted Lead Grant Program, and Tribal Lead Grant Program. Congress authorized such grants in the Toxic Substances Control Act of 1976, and funding is considered through the Interior-EPA Appropriations bill. Like the HUD programs, these grants aim to reduce incidences of childhood lead poisoning in low-income communities with older housing. However, EPA made no new awards in FY2011 or FY2012. EPA has instead awarded more recent grants through its Office of Children’s Health Protection and Environmental Education (OCHPEE), which supports projects that work to protect children’s health from environmental threats. This year, EPA announced funding for voluntary implementation of EPA’s draft K-12 School Environmental Health Program Guidelines, expected to total \$750,000. In addition, EPA grant program work receives funds from the STAG categorical account; the House Appropriations committee has included \$14.5 million for lead reduction in the FY2013 House bill, which is awaiting further consideration.

HHS/CDC

In addition to its work on children’s asthma, the CDC coordinates the Childhood Lead Poisoning Prevention Program, which Congress authorized in the Lead Contamination Control Act of 1988; the program aims to address childhood lead poisoning in communities with demonstrated high-risk populations and is funded through the Labor-HHS-Education Appropriations bill. In FY2012, Congress appropriated \$2 million for the program, with notation that the funds be used to “maintain expertise and analysis at the national level and to provide resources to States and localities.”³⁵ For FY2013, the CDC requested to consolidate the program under its Healthy Homes and Community Environment account, and requested account funds of \$27.3 million to support both programs. The Senate Appropriations Committee has rejected the consolidation proposal; it has proposed \$10 million for the lead program and, as noted above, \$25.3 million for the asthma program. The House has not yet released its report.

CONCLUSION

This *Note to the Coalitions* examined the prevalence of asthma and lead poisoning among children in NEMW states, and described Congressional action to address these problems. Asthma is one of the most common chronic conditions among children, and many NEMW states have prevalence rates higher than the national rate. Lead poisoning is the most common environmental hazard for U.S. children six years of age and younger, and sources of exposure, especially a concentration of older housing, are more common in NEMW region than in other regions. On the upside, in 2010, NEMW states tested a greater percentage of children for blood lead levels than the percentage tested in the U.S. overall.

Congress has demonstrated its concern for children's environmental health through legislation and other federal actions over the course of several decades. Lawmakers in the 112th Congress introduced a number of bills to address children's environmental health, some of which focus specifically on the prevention or treatment of asthma and/or lead poisoning. Also toward these goals, Congress has provided funds for HUD, EPA, and HHS/CDC research, grants, and related activity. Despite progress in managing asthma and preventing lead poisoning, these health problems combined still affect millions of U.S. children every year. As such, they should remain a policy priority for the 113th Congress.

Special thanks to Jaime Raymond of the Centers for Disease Control and Prevention for her assistance on the lead poisoning section of this *Note*.

Endnotes

- ¹ U.S. Government Accountability Office. September 16, 2008. Testimony before the Committee on Environment and Public Works, U.S. Senate, p.4.
- ² Bloom, B., Cohen, R.A., and Freeman, G. 2011. Summary Health Statistics for U.S. children: National Health Interview Survey, 2010. *Vital Health Statistics* 10(250).
- ³ Centers for Disease Control and Prevention. Current Asthma Prevalence – United States, 2006-2008. *MMWR* 2011;60 (Suppl; January 14, 2011):84-86.
- ⁴ Asthma and Allergy Foundation. “Asthma Facts and Figures.” Available at: <http://www.aafa.org>;
- Wang, L.Y., Zhong, Y., and Wheeler, L. 2005. Direct and Indirect Costs of Asthma in School-Age Children. *Preventing Chronic Disease* 2(1).
- ⁵ Kamble, S. and Bharmal, M. 2009. Incremental Direct Expenditure of Treating Asthma in the United States. *Journal of Asthma*. 46(1):73-80.
- ⁶ Akinbami LJ, Moorman JE, and Liu X. 2011. Asthma Prevalence, Health Care Use, and Mortality: United States, 2005-2009. *National Health Statistics Reports*; no. 32. Hyattsville, MD: National Center for Health Statistics.
- ⁷ Centers for Disease Control and Prevention. “Common Asthma Triggers.” Available at: <http://www.cdc.gov/asthma/triggers.html>
- ⁸ Gern, J., et al. 2009. The Urban Environment and Childhood Asthma (URECA) Birth Cohort Study: Design, Methods, and Study Population. *BMC Pulmonary Medicine*, 9:17.
- ⁹ Claudio, L., Stingone, J., and Godbold, J. 2006. Prevalence of Childhood Asthma in Urban Communities: The Impact of Ethnicity and Income. *Ann Epidemiol* 16(332-340);
- Baruchin, A. August 30, 2007. “For Minority Kids, No Room to Breathe.” *New York Times*. Available at: <http://www.nytimes.com/ref/health/healthguide/esn-asthmachildren-ess.html>
- ¹⁰ Brown, A.S. 2011. Family and Home Asthma Services across the Controlling Asthma in American Cities Project. *Journal of Urban Health*. 88, Supplement 1.
- ¹¹ More information about the Behavioral Risk Factor Surveillance System (BRFSS) is available at: <http://www.cdc.gov/asthma/brfss/default.htm>.
- ¹² Columbia Center for Children’s Environmental Health. “Lead.” Available at: <http://www.ccceh.org/lead.html>
- ¹³ KidsHealth. 2012. “Lead Poisoning.” Available at: http://kidshealth.org/parent/medical/brain/lead_poisoning.html#
- ¹⁴ Centers for Disease Control and Prevention. 2012. “CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in ‘Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention’” Available at: http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf
- ¹⁵ Centers for Disease Control and Prevention. Lead in Drinking Water and Human Blood Lead Levels in the United States. *MMWR* 2012;61 (Suppl; August 10, 2012):1-10.
- ¹⁶ KidsHealth. 2012. “Lead Poisoning.” Available at: http://kidshealth.org/parent/medical/brain/lead_poisoning.html#
- ¹⁷ Columbia Center for Children’s Environmental Health. “Lead.” Available at: <http://www.ccceh.org/lead.html>
- ¹⁸ Laidlaw, M., et al. 2012. Re-Suspension of Lead Contaminated Urban Soil as a Dominant Source of Atmospheric Lead in Birmingham, Chicago, Detroit and Pittsburgh, USA. *Atmospheric Environment* 49(302-310).
- ¹⁹ KidsHealth. 2012. “Lead Poisoning.” Available at: http://kidshealth.org/parent/medical/brain/lead_poisoning.html#
- ²⁰ Coalition to End Childhood Lead Poisoning. Available at: <http://www.leadSAFE.org/>
- ²¹ Columbia Center for Children’s Environmental Health. “Lead.” Available at: <http://www.ccceh.org/lead.html>
- ²² Kaplan, S. and Hiar, C. August 8, 2012. “Toxic Taps: Lead Is Still the Problem.” American University School of Communication, Investigative Reporting Workshop.
- ²³ KidsHealth. 2012. “Lead Poisoning.” Available at: http://kidshealth.org/parent/medical/brain/lead_poisoning.html#
- ²⁴ Centers for Disease Control and Prevention. “CDC’s National Surveillance Data (1997-2010).” Available at: <http://www.cdc.gov/nceh/lead/data/national.htm>
- ²⁵ Fleishman, B., Lamond E., Bach, T., and Serrell, N. 2004. “State Legislation Addressing Prevention of Childhood Lead Poisoning: A Policy Report for the Greater Manchester (NH) Partners Against Lead Poisoning.” Available at: <http://www.dartmouth.edu/~toxmetal/assets/pdf/ManchesterLegislativeRpt.pdf>
- ²⁶ Centers for Disease Control and Prevention. Lead in Drinking Water and Human Blood Lead Levels in the United States. *MMWR* 2012;61 (Suppl; August 10, 2012):1-10.

²⁷ Fleishman, B., Lamond E., Bach, T., and Serrell, N. 2004. "State Legislation Addressing Prevention of Childhood Lead Poisoning: A Policy Report for the Greater Manchester (NH) Partners Against Lead Poisoning." Available at: <http://www.dartmouth.edu/~toxmetal/assets/pdf/ManchesterLegislativeRpt.pdf>;

National Conference of State Legislatures. 2010. State Lead Poisoning Prevention Statutes. Available at: <http://www.ncsl.org/documents/environ/stlaws10.pdf>

²⁸ U.S. House of Representatives' Conference Report to Accompany H.R. 2055. Report 112-331, December 15, 2011.

²⁹ Centers for Disease Control and Prevention. 2011. "National Asthma Control Program State Profiles."

Available at: <http://www.cdc.gov/asthma/stateprofiles.htm>

³⁰ Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Bill, 2013. Report 112-176. p. 72. June 14, 2012.

³¹ U.S. Environmental Protection Agency. October 10, 2012. "Funding of Regional Assistance Agreements."

Available at: http://www.epa.gov/iaq/regional_funding.html

³² U.S. Department of Housing and Urban Development. March 30, 2012. "Announcement of Funding Awards: Office of Healthy Homes and Lead Hazard Control Grant Programs for Fiscal Year (FY) 2011." Federal Register.

Available at: <https://federalregister.gov/a/2012-7722>

³³ U.S. Department of Housing and Urban Development, "Fiscal Year 2013 Budget, Justifications for Estimates."

Available at: <http://portal.hud.gov/hudportal/documents/huddoc?id=lead-reduction-2013.pdf>

³⁴ Respective House and Senate Committee reports available at: <http://www.gpo.gov/fdsys/pkg/CRPT-112hrpt541/pdf/CRPT-112hrpt541.pdf> and <http://www.gpo.gov/fdsys/pkg/CRPT-112srpt157/pdf/CRPT-112srpt157.pdf>

³⁵ U.S. House of Representatives' Conference Report to Accompany H.R. 2055. Report 112-331, p. 1135. December 15, 2011.