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Childhood Asthma Policy and Housing

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Lead Poisoning in Our Communities

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Abstract

The author discusses how people are exposed to lead, the health effects resulting from individuals being exposed to lead, the technical assistance resources needed for communities to develop policies on lead, the communication needs for communities working on lead policy, and how to create policy dialogue and agendas on lead poisoning. The author stresses that affected communities must take control of the lead poisoning issue in their communities and address this issue in a practical manner.

Introduction

The U.S. effort to phase out lead in gasoline that ended in 1996 resulted in a general decline in background lead levels. This unearthed a residual, more difficult, problem of lead in housing. The lead in housing problem disproportionately impacts low income African American and Hispanic children in the US. Yet many agencies have declared victory over childhood lead poisoning. They point to the decline in the overall number of lead poisoned children from 17 million in the late 80's to just under a million in 1999. Yet the number of African American children poisoned each year has not declined at the same rate. In some cities nearly 25% of children have elevated blood levels.

Discrimination in housing has resulted in deteriorated housing, especially rental housing, for low income African American and Hispanic children. Patterns of residence which began when housing discrimination was still legal remain and lock many families into substandard housing that continues to poison children. In addition, African American and Hispanic workers often take the work that exposes workers to lead and fails to institute safeguards for their health in the workplace. This take home exposure also contributes to childhood lead poisoning as people bring the poisons from their work home with them.

Lead poisoning received a tremendous flurry of attention in the early 1990's that coincided with the change in the lead poisoning threshold for poisoning, set by the Centers for Disease Control and Prevention, from 25 micrograms per deciliter to 10 micrograms per deciliter. A major piece of legislation, the 1992 Lead Based Paint Hazard Reduction Act, led to a change in federal standards for lead. The goal became hazard reduction as opposed to lead removal. The law created a special division at HUD to address lead paint in housing, memorandums of understanding between HUD and EPA to develop regulations for certification of workers, health based standards for lead in paint, soil and housing. It directed federal resources to state and local health, housing and environmental agencies to begin the effort of cleaning up lead in housing. It also funded research in methodologies for cleanup to find out which were safe and cheap to implement.

Unfortunately, there was little involvement in the development or implementation of these policies by affected by parents of lead poisoned children, community based organizations, advocates for low income residents, or from advocates for improved environmental conditions for African Americans and Hispanics. These policies have left many community problems virtually untouched. Despite the deployment of millions of dollars in federal resources the communities most affected by the problem are still facing the same problems and wondering where the money has gone.

There is some talk now of a further reduction in the threshold for childhood lead poisoning since the research confirms that health problems start at levels much lower than 10 micrograms per deciliter. Yet, screening levels for lead are declining, and managed care has made it more difficult to identify and treat children with elevated lead levels. Resources for housing clean up are still scarce and communities are still being left out of the loop far too often by national, regional and state level decision-makers.

How do people get exposed to lead?

Manufacturing /Mining

There are many manufacturing processes which use lead. These include but are not limited to steel, ceramics, electronics, batteries, and glass. Inadequate filters on smokestacks contribute to air pollution in neighborhoods near facilities which use lead. Mining activities can result in exposure to lead by workers and expose neighboring communities to lead dust and contaminated soil. Both mining and manufacturing can lead to soil contamination from discarded waste. There is a host of old smelter sites some of which are still in use and some of which have been abandoned that continue to expose children who live near them to lead. Sites such as West Dallas, Texas and Butte, Idaho have undergone cleanup but continue to have remaining pockets of lead contaminated soil.

Cosmetics

Lead is substituted for a traditional ingredient in a powdery substances applied to the eyes to ward off disease. These substances are used in many countries, particularly in Asia and the Mediterranean basin, and are sometimes referred to as surma or kohl. These substances are used by women and children of both sexes. Their use is for religious and medicinal purposes and is part of an ancient healing tradition called Ayurvedism. They have been associated with very high blood levels in infants and young children from Mediterranean and Far Asian countries. Immigrants to the United States often bring cultural practices with them including the use of cosmetics that contain lead.

Paint

Lead paint in older deteriorated housing is the source of exposure that is responsible for most of the lead poisoning we see in urban areas in the United States. Although lead paint was phased out in 1978 there is still a reservoir of older housing that contains lead. As the older paint deteriorates it creates dust that children get on their hands when they play. [1] As they place their hands in their mouths or mouth objects in their environment they swallow small amounts of the lead. This is the most common source of exposure. Paint that chips and peels from exterior building surfaces contaminates soil around those building. These levels can be quite high especially in the 3 foot perimeter surrounding lead painted buildings.[2]

Occupational Exposure

Adults are primarily exposed to lead in the workplace. Occupations which use lead or products containing lead expose workers to fumes or dust which is inhaled or ingested. Examples of lead related work include radiator repair[3], welding and heavy metal industries[4] and battery smelting and recycling.[5] There are many other industries as well that use lead in some form and exposure workers. Problems occur when protective clothing, respiratory gear or ventilation controls are lacking. This causes significant accumulation of dust on clothing or in hair or shoes. In addition, smokers have higher levels, probably because of hand to mouth activity that increases the amount of lead that is ingested. Occupations that are conducted in settings that are close to where people live expose residents to the same hazardous conditions as the workers.[6]

Folk Remedies

The use of herbal remedies has been linked to high lead levels. These preparations are often home made and sold or given informally. Some are sold by lay healers in small shops. They can contain as much as 70-80% lead by weight. Sometimes neither the people who prepare these remedies nor the people who use them are aware of the lead content. These remedies are commonly used in the Southwestern United States by Spanish speaking people.

Water

Drinking water can become contaminated with lead through a variety of means. Occasionally the source of drinking water is contaminated from contaminated wastes which are dumped in waterways or reservoirs. Cisterns or other collection systems may be made of metals which contain lead. The vessels used to store water can be made of metals, be lead lined or glazed with lead. Piping which is made of lead or lead-soldered can contribute to elevations of lead in drinking water. The practice of boiling water for purification can concentrate the water and increase the percentage lead content.

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Contaminated drinking water can be an important contributor to lead poisoning in infants. Water is often mixed with formula and can lead to severe elevations. Lead poisoning in infants has also been linked to the use of water boiled in metal containers for purification.

Food

Food can sometimes be contaminated with lead. Contamination can occur at many points along the cycle from growth to transport to sales. Possibilities for contamination include soil, lead deposition from air, contaminated storage and transport containers as well as leaded cooking and home storage vessels.

Lead Glazed Pottery

Lead glazed pottery can leach lead into the food that is stored in it. If the glazes are not fired at high temperatures, the lead is unstable and moves readily into food, especially acidic foods like tomato sauce or juices. The use of lead glazed pottery has been associated with very high levels of lead in blood for both adults and children. Lead glazed pottery is commonly used in Mexico, Europe and many other parts of the world.[7] Immigrants to this country have brought their pots and a tradition of use with them as they have settled in the U.S. Red bean pots which are commonly used in the Southwestern part of the US are often glazed with lead. The potters and their families, often live close to the kiln and significant soil contamination occurs exposing whole villages to elevated levels even if they do not cook or store food in the pots.[8]

What are the Health Effects resulting from exposure to lead?

In adults, lead poisoning can cause effects on many of the body's organ systems. Symptoms are most often subtle, with the affected person complaining of headaches or body aches. Lead causes changes in nerve conduction velocity that at high levels in the body can affects the nerves in the feet and hands. A condition called wrist drop or foot drop results from high lead levels and causes loss of the ability to move the hand or foot up and down in space. Changes in mood and behavior can lead to violence and social aggression. A colicky stomach pain can be a symptom of lead exposure. Hypertension is associated with lead exposure. Hearing and visual acuity can be affected.

In children, attention and learning ability are the most common effects. Losses in IQ can result from exposure. Children become difficult to manage in the classroom. Hearing and balance are affected. At higher levels (which do not often occur anymore) seizures, coma and death can result.

Remediation of sources of lead poisoning is not always possible. The cost for reducing sources of exposure is often too high for families to afford and there are few resources offered by public agencies. If the family can't afford it and the landlord can't be made to pay nothing is done. Even in public housing, it is difficult to get prompt attention when a child is poisoned or a hazard exists. This approach can be out of reach for small organizations trying to address their lead issues. Public education campaigns can play an important role as an adjunct to source remediation or as a substitute when resources are scarce. Educating the public about the sources of exposure and steps they can take to reduce their personal risk is a useful and cost effective approach to a pervasive problem.

Cultural factors must be taken into account as educational messages are designed and as vehicles are chosen for conveying those messages to target audiences. It is important to know what are acceptable suggestions for behavioral change as well as what's practical and within the capability of targeted community residences. Culture plays an important role in determining the behavior of individuals and families. When an educational campaign is designed it is essential to involve the people who are targeted in the design and implementation process.

What are the policy needs for groups working in communities?

There are hundreds of nonprofit and community based groups working in relative isolation on lead poisoning prevention in the United States. These groups range from those founded by parents of lead poisoned children to community advocacy organizations, that address lead in addition to a host of other civil justice and environmental issues.

"It is difficult to keep up with policies and issues"

"Each of us is dealing with separate issues in our communities…sometimes it's enforcement, sometimes it's no laws"

"As grassroots people we see it from the ground [and don't] look up and see what's going on in Washington."

"There is a need for a national strategy that mobilizes folks and analyzes the lead issue."

"We'd like some prevention. I'm tired of reacting to every little piece of paper."

"Tell us what is coming down the road. Not after it happens!

" If we had a national coalition it would empower me and give me some confidence going out. One of the things I find difficult to work with and deal with is the government. HUD and EPA seem to have something totally different and the state legislation makes the federal government's obsolete."

What Technical Assistance resources are needed for communities to develop policies?

Many groups could benefit from technical assistance to increase their ability to tackle lead poisoning policy issues. In addition, resources to link groups together and provide connections between those communities with similar problems can help to refine the approaches taken by organizations to achieve their goals. There is no central place to go to obtain information about programs and policies either at the community, state or regional level. There needs to be a database of model programs and policies. In addition, technical experts need to be funded to be available to community based organizations to assist with specific program development and policy development.

It is critical to involve community based organizations in the design of programs and policies that affect the people living in their communities. Representatives from these groups know their communities, many of the sources of exposure that exist in these communities, and what approaches will work best there. They are in the best position to shape the project so that it will meet their needs, provide access to information and assistance they deem appropriate and in ways that are acceptable to residents in their communities.

What are the communication needs for communities working on lead policy?

Once resources both material and technical are available a mechanism for creating access to those resources is needed. Electronic communications that are responsive to the needs of community members are needed. There needs to be a database of model programs and policies. This should be made widely available to organizations and policymakers who work on lead poisoning prevention activities in their countries, regions or communities. Some information can be made available on line, as a searchable database, but funding for face to face meetings and/or teleconferences to strategize are critical. In addition, a publication

which focuses on programs and policies circulated to groups working in communities would be a valuable tool as they work towards poisoning prevention implementation.

How do we Creating Policy Dialogue and Agendas?

Lead poisoning presents a unique policy challenge. The issue straddles health, environment and housing agency missions. As a result of this overlap, government and community based organization efforts to address the issue have proceeded in many different directions with varied success. There has been inconsistent and uncoordinated program development and incomplete service delivery. This picture has been further complicated by processes which work to exclude the populations at greatest risk of exposure. Examples of these policies include federal advisory committees, stakeholder solicitations and the use of the federal register and other 'community unfriendly' communication mechanisms.

Small organizations working on lead poisoning prevention need an opportunity to dialogue and to interact with policymakers from governmental agencies and financial and health organizations. Such dialogue could result in some consensus on policy issues that emerge from the work of the community based and nonprofit organizations.

Policy Summary

Here is a summary of the policy issues raised above:

1. Access to housing which does not poison children.
2. Control over how abatement (lead cleanup) is conducted
3. Resources to fund abatement crews that are composed of residents of the affected communities
4. Limits to lead polluting industries in communities
5. Clean up of lead contaminated soil
6. Increased role in policy development for affected communities
7. Resources to make technical assistance available
8. Communication network linking affected communities where lead poisoning is common
9. Alerts about products which contain lead

These will serve as the basis for further dialogue as affected communities work to take control of the issue of lead poisoning, and address it in a way that makes sense for them.

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Endnotes

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