HABITAT AND HEALTH: THE ROLE OF ENVIRONMENTAL FACTORS IN THE HEALTH OF URBAN POPULATIONS

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A wide range of problems, including infectious diseases, injuries, chronic illnesses, and mental health problems, can be attributed, at least in part, to environmental factors. People who are concentrated in urban areas are at increased risk for many of these problems because of the poor environmental conditions and deteriorated infrastructure that are all too typical of US cities today. One of our main goals, as scientists and public health officials attempting to improve the health of urban populations, must be to identify not only genetic and behavioral factors, but also the environmental factors that contribute to disease, and then to devise "interventions" that will reduce residents' exposure to these factors.

That task is easier said than done. Lack of money and resources needed to carry out appropriate interventions is one reason. In addition, three all-too-common "mind-sets," or beliefs, sabotage attempts to solve urban environmental problems.

BARRIERS TO ACTION

The first belief, most common among compassion-weary people who do not live in cities, is that urban deterioration and associated environmental problems are largely the fault of the residents themselves; that these residents of central urban areas are slovenly, unproductive people who are unable or unwilling to hold regular jobs or to maintain their living areas properly. The most extreme adherents of this view argue that any money spent on improving the environment in urban areas will be wasted, because irresponsible residents will inevitably allow the area to fall quickly back into disrepair.

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The second belief, which is a corollary of the first (although it can also be derived without assigning blame to urban residents), is that urban problems, including the degradation of the urban environment, are insurmountable—there is too much wrong to fix with our limited resources. This hopelessness is shared by residents and nonresidents of urban areas.

The third belief is a “siege” mentality, which I call the “Alamo syndrome.” People and organizations with this mind-set are concerned about the urban environment and are often those working most diligently to improve it. However, they feel under siege by a society indifferent to the plight of inner cities. Although this view is not entirely unjustified, those who hold it feel they must defend the “turf” of their group or organization people against everyone, including possible partners and allies. I assume that no one in attendance at the New York Academy of Medicine symposium shares either of the first two beliefs about urban environmental problems. However, I suspect that each of us from time to time falls victim to the Alamo syndrome. This paper reviews some of the successes that we at the Centers for Disease Control and Prevention (CDC) have been involved in that have combated the Alamo Syndrome and have been achieved through the cooperative efforts of several groups.

PROGRAMS TO IMPROVE THE URBAN ENVIRONMENT

LEAD POISONING PROGRAMS

A problem that was thought to be insurmountable and that required “anti-Alamo” thinking to become a success story is that of environmental lead contamination and the large number of cases of lead poisoning, particularly among children. Twenty-five years ago, lead poisoning among our children seemed to be an unsolvable problem. Dramatic decreases seemed inconceivable. Since then, however, the Environmental Protection Agency has mandated the removal of lead from gas; the Consumer Product Safety Commission has called for the removal of lead from toys and new house paint; the Food and Drug Administration has worked with industry to phase out lead-soldered food cans; the Department of Housing and Urban Development has begun work to remove lead from homes; the medical community has worked to identify children poisoned by lead; and individual communities have provided lead screening and lead abatement. As a result of these cooperative, interlocking efforts, we have seen the percentage of children affected by high blood lead levels ($\geq 10 \mu\text{g/dL}$) drop from almost 90% in the late 1970s to less than 5% in the early 1990s. None of these organizations could have done it by themselves; it had to be a collaborative effort.

Although this is a profoundly successful story, nearly 1 million US children

still have blood lead levels high enough to affect their intelligence and development. All children can be susceptible to poisoning if exposed to lead, but we know today that some groups of children are at higher risk than others, and that many of these children are concentrated in "pockets of risk," which frequently are urban areas with older, deteriorating housing. Therefore, we are recommending that limited public health resources be used for targeted blood lead screening of children residing in these pockets of risk.

One such pocket is the West Town area of Chicago, where a partnership of CDC, community members, a local hospital, and a construction contractor is rehabilitating houses heavily contaminated with lead. This is not a "top-down" project of urban renewal, but rather a community-led attempt. The community-based group in West Town identifies homes in which children are at risk from exposure to lead and then works with tenants and landlords on a plan to remove the lead from the homes of those children and to shelter affected families temporarily while lead is being removed from their homes. This is all being done in a community that has many other—and arguably more pressing—problems, such as gangs, drugs, and grinding poverty, yet the community members have dedicated themselves to this effort because it focuses on the health of their children.

This program and others like it also provide an economic benefit to the local community because it employs local people and teaches them new skills, such as carpentry. The people working in West Town are justifiably proud of their effort to improve the lives of children at risk for lead poisoning and the lives of family members of those children. This effort has been successful in large part because it is "owned" by the community, not imposed from outside. Yet, it would have been impossible if community members had succumbed to the Alamo syndrome and had been reluctant to cooperate with partners from outside the community. CDC has a long track record of working with state and local public health leaders on projects such as that in West Town, and looks forward to developing further "healthy homes" projects in the future.

ASTHMA PROGRAMS

Asthma, another problem associated with environmental exposures, also affects urban residents disproportionately. One of the nation's most common and costly diseases, asthma affects 14 to 15 million Americans, including almost 5 million children. In fact, it is the most prevalent chronic disease among children and can be life threatening. Nationally, asthma in children under age 18 is increasing at alarming rates: the death rate for children increased by 78% between 1980 and 1993. African-Americans are four times more likely to die from asthma than are other Americans.

We know that environmental interventions, in combination with medical management, can reduce the burden of asthma. However, putting this knowledge into sound public health practice again requires the cooperation of multiple groups and organizations. CDC is developing a national strategy to assist its partners in developing asthma prevention programs.

One pilot program is Atlanta's Zap Asthma project. This unique public-private collaborative effort involves 16 partners in the Atlanta area, including health care providers, educators, public health agencies, and, most importantly, members of the community. Zap Asthma is a broad-based program to improve the health of children with asthma who live in the Atlanta Empowerment Zone, an urban area where the asthma hospitalization rate for children is higher than the national average. Zap Asthma employs and trains community health workers to help children with asthma and their families learn about diagnosis and treatment of this disease and take steps to ensure that their homes are free of the triggers that can lead to asthma attacks. Each partner brings unique capabilities to this project, from knowledge of prevention and primary care to expertise in environmental improvement and health care education. Zap Asthma also provides intensive community-based and school-based asthma education, stop-smoking programs, and healthy home initiatives.

HEALTH AND HABITAT PROGRAMS

An evaluation was made in Harlem of the health effects of several housing revitalization efforts that were led by the Department of Housing and Urban Development. This evaluation, a cooperative effort between CDC and Dr. Mindy Fullilove, a research psychiatrist at New York State Psychiatric Institute, has focused on the powerful impact that "habitat" has on human health. The importance of habitat is a concept that we have accepted with regard to the health of other species of animals, but have tended to ignore with regard to human beings.

Dr. Fullilove uses the example of Harlem to show the effects of environment on human health. Harlem was a vital community until the 1950s. There was a strong sense of belonging. People knew each other, watched over each other and each other's children, and maintained a clean and vibrant community. Residents were able to walk to nearby essential services, such as markets, cleaners, repair shops, and clinics, as well as to their workplaces. There were parks to exercise and play in. All of these characteristics of Harlem encouraged healthy physical and psychological behaviors.

Many causes are given for Harlem's deterioration during the 1960s, but diminishing economic investment and opportunities are important among them. Indus-

tries and services were abandoning Harlem. Residents were no longer close to their workplaces. As jobs within the community were lost and income levels fell, stores closed, many essential services were no longer available, and buildings fell into disrepair. The loss of economic vibrancy led to a cycle in which deterioration of a community's physical structures contributed to the deterioration of its social structures and vice versa. In this setting, essential city services, such as fire control, rodent control, garbage collection, and housing inspection, are often cut back because of the lack of financial support. These services are critical to maintaining healthy environments; loss of them creates an environment in which crime, physical danger, disease, and mental illness are more likely.

Dr. Fullilove discovered that, when residents participated in the ownership and rehabilitation of their housing units, with a sense of community ownership and with the essential services more accessible, the residents experienced a revitalization of their immediate community groups. Residents felt safer and happier in their new homes; those perceptions translated into better social and health habits and better mental and physical health.

CONCLUSION

The findings of Dr. Fullilove, as well as the success of Zap Asthma and the campaign against lead poisoning, are strong arguments against all three of the mind-sets mentioned above. They show that urban deterioration is largely a product of economic forces, not of some moral failure of urban residents, and that money spent on improving an urban environment has the collateral effect of giving residents the sense of hope and optimism and the feeling that they are contributing to their health, which will make them better stewards of that environment. They show the importance of tapping into the energy and interests of the community, while at the same time addressing political resistance to helping disadvantaged communities. They show that progress takes time, and that successful programs try to improve an existing community rather than making it over at once. They show that urban problems are manageable. And, they show that community groups and outside agencies can accomplish a great deal by working together and putting aside the parochial differences and mutual mistrust that grow out of the Alamo syndrome.