Little Pamphlets and Big Lies: Federal Authorities Respond to Childhood Lead Poisoning, 1935–2003

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Late in 1935, Alice Hamilton, who a generation earlier had done more than any other government-sponsored researcher to expose and ameliorate industrial lead poisoning, wrote to Martha May Eliot, assistant chief of the U.S. Children's Bureau.[1] A young friend of Hamilton's, a new mother married to a third-year medical student at Harvard, had asked Hamilton how to be sure that paint on baby furniture was lead-free. Although Hamilton had always assumed "that furniture and toys were painted with enamel paint, lead-free," the Bureau of Standards informed her that in fact many enamel paints contained lead. Hamilton's purpose in writing Eliot, then, was to urge "that tests would have to be made of furniture paints and toy paints," and to suggest who should take on this task: "Do not you think that it is an important question and that it lies within the field of the Children's Bureau?" No such investigation was ever undertaken by the Children's Bureau, the federal agency charged with advocating for "the welfare of children and child life among all classes of our people."[2] Instead, the Bureau continued to field concerned parents' questions about safe paints, and periodically published leaflets listing the lead content of paints, data provided by the paint manufacturers themselves.

If Eliot and others at the Children's Bureau did not see studying lead poisoning as within its field, the lead-using industries had certainly learned it was in their best interests to do so. Recent historical scholarship makes clear that for much of the twentieth century the lead industry dominated lead poisoning research, denied the potential health effects from exposure to lead, and successfully limited the public's knowledge of real harm to its workers and the general public, all in order to continue marketing its "useful metal."[3–6] At the time of this exchange of letters between Hamilton and Eliot, researchers at Harvard Medical School were in their second decade of research into the health effects of exposure to lead, research funded in large part by grants from the Lead Industries Association, a trade organization comprising most lead mining and manufacturing companies.[5,6] And at the University of Cincinnati, Robert Kehoe studied the physiology of lead absorption at the Kettering Laboratory of Applied Physiology, an institution established by and run with funding from GM and the Ethyl Corporation, the producers of leaded gasoline. Kehoe in Cincinnati and Aub and his team in Boston were establishing the standard interpretation of lead poisoning that would prevail for the next 40 years. This contrast between passive government agents and assertive defensive actions by industry had enormous health consequences both inside and outside the lead factory walls.

This article focuses on childhood lead poisoning as distinguished from the other two particular modes of lead exposure: occupational and environmental—which might be more accurately termed "universal," since it is the uniform *distribution* (via leaded water

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pipes; lead-adulterated food, cosmetics and drugs; and air pollution), not the specific *source* that distinguishes it from occupational and pediatric lead exposure. Each of the three modes of lead poisoning has its own regulatory history, but since the early twentieth century the three have engaged with the others in an ongoing, if halting, three-way conversation.

Childhood lead poisoning was recognized later than occupational exposure, took much longer to rouse action to fight, and remains the most divisive of the three modes. Childhood lead poisoning presents age-specific issues around metabolism, behavior, social standing, and relationship to the environment. I will examine three instances when government, industry, and the medical and public health communities had an opportunity to focus their often-competing energies on the problem; these moments argue for a serious reevaluation of what has and has not worked in the past.

BACKGROUND ON OCCUPATIONAL AND ENVIRONMENTAL LEAD POISONING PRIOR TO 1930s

Before turning to childhood lead poisoning, a brief overview of how the country dealt with occupational and environmental lead poisoning in the first third of the twentieth century will suggest what factors limit progress and what works. Although occupational lead poisoning still yields a painful annual harvest of morbidity,[7] even the most conservative statistics a century ago reported hundreds of workers killed annually by lead, each fatality matched by a hundred sickened workers, or a thousand, or more—the proportion is unknowable.[8] By now, the fatal conditions common in America's lead workplaces a century ago are well known, as are the Progressive-era investigations by state and federal inspectors that brought these conditions to the public eye. Familiar, too, is the rise of workman's compensation laws that prompted so many improvements throughout American industries.[3,6,9–11]

But Alice Hamilton and the other government inspectors wielded almost no regulatory might, and their place in the public spotlight faded by the 1920s and 1930s, when most state workman's compensation laws did not cover occupational illnesses and unions struggled chiefly over bread and butter issues—when they weren't fighting for their mere right to exist. Yet, in this period of lax regulation and weak unions, overall conditions in the lead-using industries improved remarkably. The reported death rate from lead poisoning declined by two-thirds from 1910 to 1940, a period when lead consumption in the United States nearly tripled.[12,13]

Two factors prompted and sustained this prolonged period of self-improvement. First, the Progressive-era surveys and the publicity surrounding them forced many in the lead industries to acknowledge that as long as they failed to incorporate cheap but effective means of reducing lead hazards they would continue routinely killing their workers. They also learned that, as William Talbot, editor of *Human Engineering* proclaimed, "sanitation is a means of saving dollars and cents."[14] Second, although workman's compensation often did not apply directly in the case of lead poisoning or other occupational illnesses, private insurance company participation in workplace safety brought to the factory two contingents of middle-management experts concerned specifically with the health of workers: insurance administrators and company physicians.

Although bringing the insurance companies in encouraged preventive hygiene programs and permanently changed factory culture, protecting the public's health from airborne lead was a disaster. The single largest source of lead exposure for most Americans in the mid- to late-twentieth century came from the use of leaded gasoline in automobiles. The story of the ill-fated introduction of tetraethyl lead and the government's failure to recognize and address the threat it posed is well known.[15,16] A committee appointed by Surgeon General Hugh Cumming in 1925 to assess the risks of the new gasoline additive warned that despite its study's inconclusive findings, "longer experience" might reveal lead poisoning "of a less obvious character," and called for further study. Instead of further study, the warnings went unheeded, and "longer experience"—fifty years of constantly increasing exposure to lead oxide dust swirling around every street in the country—proved to have just the effect the committee speculated it might.[17]

Perhaps no better outcome could have been expected in a period when the regulatory power of the federal government was still weak and contested. On the other hand, the state and federal governments had no less authority in 1924 than they had 10 years earlier, when Alice Hamilton and her peers combined shoe-leather epidemiology, economic common sense, and moral suasion to bring lasting changes in industrial practice. But in the post-war embrace of big business and a booming economy, the tide turned against ceding authority to state officials, and the basis for regulatory authority had already begun shifting from morality to science. And in the case of lead, industry itself controlled the production and dissemination of that science.

BACKGROUND ON CHILDHOOD LEAD POISONING, 1920–2003

Unlike the public attention and official response to occupational lead poisoning and the introduction of tetraethyl lead, childhood lead poisoning in the same years thoroughly earned its later monikers: "invisible epidemic" and "silent epidemic." Prior to the 1930s, children composed less than five percent of reported lead poisoning deaths in the United States, the vast majority of pediatric lead poisoning deaths probably being misdiagnosed as infectious in origin.[18] By 1940, ten times the childhood lead poisoning deaths were being reported each year (in all likelihood still under-reported by a factor of ten),[19] an increase that cannot, as one historian has argued, be attributed to suddenly deteriorating housing,[20] or to changing behavior, or the increased use of leaded gasoline.[6] What did change was the number of physicians on the lookout for lead's multifarious presentations, and the increased vigor with which medical and public health professionals investigated the incidence of lead-poisoned children. Over the next decade, the number of city and state public health departments looking for lead poisoning among the children in their communities slowly rose, but it would take another twenty years for the federal

government to frame any concerted response, and even then its effectiveness would be hampered by inter-departmental friction, buck-passing, and financial constraints.

At least three specific factors inhibited the discovery and study of pediatric plumbism in America before the 1920s: theories about the origins of disease that emphasized germs and contagion; the dominance of infectious diseases as a cause of childhood sickness; and the failure to study children's diseases apart from those affecting the general public. Therefore, awareness of childhood lead poisoning as a public health issue in the United States awaited three developments: a mature sub-discipline of pediatrics; greater sensitivity by medicine and public health to non-biotic, environmental disease causation; and a reason to single out the particular toxin, lead. All three fell into place between the 1920s and the 1980s.

The study of pediatric lead poisoning in these years, and most especially the efforts to reduce its toll, were shaped by a series of transformations in public and professional perceptions of the typical lead-poisoned child. Those rare reports of lead-poisoned children prior to the 1930s often emphasized the bizarre or exotic: they were victims of food adulteration by negligent bakers,[21] Asian infants poisoned by their mothers' cosmetics,[22] or, in the most famous example, innocent Australian children poisoned by an ill-fated combination of climate and housing style in semi-tropical Australia.[23] Between the middle of the Depression and the end of World War II, it became clear that many American children were being poisoned by the paint in their homes, and childhood lead poisoning came to be understood as a social problem caused by bad housing, "backward" children, and their "ignorant" parents—just another of the legion "ghetto problems." And like the others, probably insoluble, as one lead researcher concluded in 1940 when she commented, "like the poor, lead poisoning is always with us."[24]

The same children as before were presumed to be at greatest risk: poor children, usually children of color; but as the nation's attitude toward poverty shifted from the willful dismissiveness of Social Darwinism to the optimism of the Great Society, the lead-poisoned child became proof that slums kill, a rallying point for advocacy. The dramatic expansion of lead poisoning prevention programs in the 1970s screened millions of children and abated the lead from hundreds of thousands of homes. But these efforts would pale in comparison to those prompted by the reassessment of risks from low-level lead exposures, which once again transformed the image of the lead-poisoned child.[25,26] No longer confined to the ghetto, lead's menacing shadow fell over the thresholds of middle-class homes, threatening the mental development of the children of professionals.

By the mid-1990s, assertive measures to limit lead in the human environment—through pollution controls, bans on lead in solder used in canned foods and plumbing, and the elimination of leaded gasoline—lowered average American blood-lead burdens to levels that were unheard of in the 1940s.[27] This remarkable achievement in environmental cleansing was, however, incomplete: the general miasma of universal lead exposures was driven off, but most of the old lead paint remained on walls, in the dust inside homes, and in the soils around old buildings and throughout our cities. Once again, it was the poor child of the inner city considered most at risk.[28]

INSTITUTIONAL RESPONSES TO CHILDHOOD LEAD POISONING

It is against this background of shifting definitions and perceptions that medical and public health professionals acted through most of the twentieth century to discover, study, and fight to end childhood lead poisoning, so any historical understanding of what was or was not effective must take into account this shifting context. Within this context, the Children's Bureau's tepid response to Alice Hamilton's 1935 query is not surprising. In a period when childhood lead poisoning was still portrayed in most medical and popular literature as an accident or the outcome of exotic conditions, little more than public education seemed necessary. Between 1930 and 1935, Children's Bureau officials included warnings about lead in their public education publications and broadcasts. In September 1931, Ella Oppenheimer, a doctor at the Bureau, mentioned the dangers of toxic paints in cribs and toys in a national radio broadcast about preventing childhood accidents.[6] A Bureau infant care pamphlet recommended that concerned parents buy cribs and toys that contained only non-toxic paints.[29,30]

In the same years, the lead industries were even more active in educating the public about *their* notions of lead's dangers, mostly by publicizing misleading "survey" data and squelching others' investigations. In November 1930, before Ella Oppenheimer took to the airwaves, Felix Wormser, Secretary-Treasurer of the Lead Industries Association, polled a number of crib and children's bed and furniture manufacturers, asking them "if it is your practice to use any white lead in painting this type of furniture." While most of the twelve companies who responded answered in the negative, only one company flatly asserted that it did not use "any lead paint." Four companies answered that they preferred enamel or lacquer, but did not claim that their pigments were lead-free. They had simply answered Wormser's specific question about "white lead," which customarily meant pure carbonate of lead in oil.[31]

Wormser's "survey" was conducted in response to growing recognition in medical literature that childhood lead poisoning was not as rare or exotic as had been imagined. More specifically, it sought to counter more public pronouncements, such as a short report in the Metropolitan Life Insurance Company's monthly *Statistical Bulletin* for October 1930, which summarized a survey of American pediatricians' knowledge of childhood plumbism and concluded that it "is by no means a rare condition," and that pediatricians believed "that wide publicity should be given . . . through the press or the 'popular' literature of public health departments and private health agencies, with special insistence upon the dangers inherent in cribs and toys painted with material which contains lead."[32]

According to Louis Dublin, the Metropolitan Vice President and statistician who penned it, the report received "a great deal of publicity," and "strong remonstrance by the Lead Industries Association." Three years later, Ella Oppenheimer was preparing "a popular folder on the Prevention

of Lead Poisoning in Children," and wrote Dublin for details of the survey.[33] Dublin offered to show her the complete files, but since Metropolitan wanted "to avoid any controversy with the lead people" the Children's Bureau should "not mention the Metropolitan in any releases."[34] Oppenheimer assured Dublin: "We shall be very careful, indeed, not to mention the Metropolitan bulletin in any way."[35]

These three short letters suggest a complex set of relations among the federal government, the insurance industry, and the lead industry of the time. Dr. Oppenheimer, a high-ranking bureaucrat in the Department of Labor, relied on an insurance company for basic information, information it had acquired because it had a stake in knowing the basic facts about a growing cause of death among its subscribers. The lead industry got the insurance company, whose economic interests were no doubt at stake, to back down from its publicity campaign; the federal government, when informed of the Metropolitan's desire not to displease "the lead people,"[34] acquiesced. After all, Oppenheimer was not publishing an exposé of the lead industry, just "a popular folder."[33]

The Children's Bureau conducted its own small survey of toy and children's furniture makers in 1935, with results similar to what Wormser had learned. Most avoided flatly asserting their products were lead-free; in fact, they complained about the difficulty of finding substitutes for lead, arsenic, mercury, and other poisonous pigments. Still, most claimed that despite cost-cutting forced on them by the Depression, their pigments were safe, and nearly lead-free.[36,37] One manufacturer assured the Bureau that "all of the materials used, not only paints, are definitely harmless to the user, and, of course, we refer to the children."[38]

The Children's Bureau continued to field questions from concerned parents seeking information about safe paints for playrooms and children's furniture, and for the next twenty years continued to promulgate folders and "little pamphlets" warning of the need to use non-toxic pigments and providing data on the lead content in paints, data collected directly from the manufacturers and not subjected to confirmation by any government agency.[39] Well into the 1960s, educating health professionals and parents remained a major component of Bureau efforts. In 1967, the Bureau published a booklet, "Lead Poisoning in Children," and over the next four years distributed 29,000 copies to doctors' offices, health departments, medical schools, and community groups.[40] The government's distribution of this pamphlet paled next to the efforts of the Lead Industries Association, which distributed 61,000 copies as part of its free booklet, "Facts About Lead and Pediatrics."[41,6]

"Little pamphlets" alone could not counter the reams of industry-sponsored research, let alone the lobbying and advertising dollars that carried the lead industries' self-serving messages and lead-friendly interpretations to the public. Nonetheless, the simple threat of a federal agency or an insurance company asking questions and raising issues had salubrious effects. How much more the Bureau might have accomplished if Martha May Eliot had accepted Alice Hamilton's challenge, and perhaps a bit of the methodology and outlook (direct engagement with industrialists, moral suasion, arguments based in economic efficiency, and an implied threat of state regulatory power) that had helped Hamilton gain significant cooperation from entrenched industries is not known.

Another significant instance where childhood lead poisoning attracted the simultaneous interests of the lead industry, government, and medical professionals came in the mid-1950s, with the adoption of the first industry-wide voluntary restriction on lead-based paint in the United States. In the 1940s, interest and awareness of childhood lead poisoning increased dramatically, spurred in part by research and publicity from a few public health departments and inner-city hospitals, but also by the advent of effective treatments, first introduced after the war. The ability to treat serious cases of lead poisoning encouraged the search for children to cure.

The search for dangerous sources of lead in the 1930s had focused on those items the normal healthy child might reasonably be expected to encounter—and chew: painted blocks, toys, and infant furniture. Over the next decade, as the scope of the problem began to emerge, it became clear that the chief danger was not lead paint found on such child-specific objects, but from the layers of heavily leaded paint slathered all about the child's wider domestic environment, a source never completely ignored in the medical literature after the mid-1920s, but usually overshadowed by concerns with lead-covered toys and cribs.[6] Finally facing the obvious, the lead industry, practically overnight, began faulting parents for their ignorance of this basic fact—a fact it had been vehemently denying for decades. Defective children and their ignorant families, not the paint on walls and woodwork, caused lead poisoning. As a lead industry executive complained privately, "until we can find means to (a) get rid of our slums, and (b) educate the relatively ineducable parent, the problem will continue to plague us."[42]

Other industry insiders saw the writing on the walls. At a Lead Industries Association meeting in 1953, Robert Kehoe—then medical director for Ethyl Gasoline Corporation (the people who put the lead in leaded gasoline), and the world's foremost expert on lead poisoning—warned his colleagues in the paint industry that they must stop marketing lead-containing paints and putty for interior use: "If this is not done voluntarily by a wise industry concerned to handle its own business properly, it will be accomplished ineffectually and with irrelevant difficulties and disadvantages through legislation."[43]

In 1955, paint industry representatives, working with representatives from health associations, insurance companies, the American Academy of Pediatrics, technical societies, government agencies, the Boy Scouts, and other participants in an American Standards Association committee on Hazards to Children, established the so-called "Z66.1 Standard," requiring that any paint sold for interior use should contain less than one percent lead by weight in its dried film.[44] Committee members claimed to have reached the one percent level through a complex calculus of technical and toxicological factors to determine how much ASA-standard–compliant paint a three-year-old would need to eat "to get lead poisoning."[45,46] But the simple arithmetic of economic interest dictated the answer: one percent was the lowest the paint industry was willing to accept, as it would

allow continued use of certain hard-to-replace pigments and lead naphthanate, the industry's preferred dryer.[47]

Establishing even a voluntary restriction on the use of lead paints was certainly an accomplishment for public health, and the process demonstrated both the opportunities and pitfalls of such cooperative ventures between private and public organizations. It is not a case where public and legal pressure alone converted a recalcitrant industry. The lead industries by and large supported the standard, even though it would seem to have undercut the value of their flagship product. On the contrary, from 1926 to 1955, demand for lead paint faded as paint companies introduced new pigments, notably titanium dioxide, a non-toxic pigment superior to lead carbonate in almost every way. Many lead pigment and paint manufacturers had begun investing in titanium mines and processing technology decades earlier, when titanium dioxide was a costly additive used only for special purposes. As the costs of manufacturing titanium dioxide fell, manufacturers gladly substituted it for its toxic predecessor.[13] As long as the new ASA standard allowed manufacturers to add a dash of lead as needed, the LIA's members could harvest the public relations bonanza of having acted selflessly in the children's best interests.

Not that the new standard got the lead industry off the hook. It merely codified the existing norms for applying *new* paints to interiors; it did nothing to help identify or abate the tons of old lead paint chalking and flaking in American homes, or to prevent the thousands of cases of lead poisoning that resulted each year. Consequently, the next three decades saw childhood lead poisoning evolve from a "silent epidemic of the slums" (in the words of activists and muckrakers in the 1960s) to "the most prevalent environmental threat to children in the United States" (in the words of the U.S. Department of Health and Human Services in 1991).[48]

Government-funded screening, prevention, hazard detection and abatement programs surged in the years after the passage of the Lead-Based Paint Poisoning Prevention Act of 1970. Funded research into the mechanisms of plumbism, its epidemiology, and treatment flourished as well, producing a steady accretion of biomedical expertise. The government interventions that did the most to lower lead exposures, however, had almost nothing to do with paint; the most significant such intervention—the phase-out of leaded gasoline—was initiated to reduce automotive air pollution in general, with little attention given to preventing human lead absorption. Programs initiated in the same years that were designed to identify and treat lead poisoned children or to abate the risks of lead paint in homes were much less successful. Screening and abatement programs have been hampered by problems of funding, conflicting authority, and ironically, the very success of the campaigns to reduce universal lead exposure, which has tended to reduce the perceived urgency of the remaining problems.

This particular irony is most salient in the rise and fall of universal screening for childhood lead poisoning, a trajectory that can be charted through policy statements from the federal offices most directly involved. Although driven by publicity and activism around lead poisoning in the ghetto, the Lead-Based Paint Poisoning Prevention Act of 1970 (LBPPPA) promoted a universal approach—"to eliminate lead-based paint poisoning by . . . eliminating the causes of such poisoning."[49] Growing concerns over low-level lead exposure dramatically enlarged the "at-risk" population and encouraged a move toward universal screening. In 1982, Jane Lin-Fu of the Public Health Service's Office for Maternal and Child Health recommended that all community child-health programs administer "routine periodic erythrocyte protoporphyrin screening of all children from one to five years of age," in conjunction with other health screening activities.[50] The CDC's policy in 1985 recognized universal screening as an ideal goal, though it still concentrated on enrolling "the maximum number of children in high-risk groups."[51] By 1991, The CDC all but abandoned particularism: "Because almost all U.S. children are at risk for lead poisoning (although some children are at higher risk than others), our goal is that all children should be screened, unless it can be shown that the community in which these children live does not have a childhood lead poisoning problem."[52]

Unfortunately, national lead prevention policy and national health care politics were moving in opposite directions. Universal lead screening would require millions of federal dollars designated exclusively for such programs—the very type of "categorical" program Ronald Reagan's campaigns for locally-controlled block-grants sought to eliminate.[53] Block grants and the funding cuts accompanying them threatened existing local lead screening programs and discouraged establishing new programs, even in states with high "at-risk" populations. Any campaign for universal screening appeared quixotic, given the obstacles to large-scale projects in a political climate dedicated to dismantling the "New Deal Order."[54]

Still, in the early 1990s the pendulum was swinging in favor of universal screening. Public awareness of lead poisoning as a universal threat to children was nearing its peak, bolstered by well-organized and politically savvy activists. And despite lead industry efforts to undermine it, convincing scientific evidence continued to highlight the risks associated with lead absorption well below the traditional "threshold" that defined an official case of lead poisoning.[26] The CDC was the nation's leader in programs to identify and treat childhood lead poisoning: between 1990 and 1993, its Childhood Lead Poisoning Prevention Branch provided over fifty grants to state and local public health agencies to implement programs that screened about three million children; it trained public health professionals, set standards and enhanced collaboration between programs, and established its Blood Lead Surveillance System; and it increased the number and quality of laboratories for testing samples from screening programs. Today the CDC's Childhood Lead Poisoning Prevention Program continues to provide expertise and funding to hundreds of local lead poisoning prevention programs around the country: in 2003 it disbursed $31.7 million to fund 42 health department programs, and collected data from lead screening programs in 46 states, which test over two million children each year.[55]

An important part of the CDC's leadership is its dominant role in setting standards: how to set up a screening program, best practices for laboratories, standards of care in case-management. And since the 1980s, the CDC's standards for risk-assessment and case management have in effect defined the level of lead absorption considered to constitute a

case of lead poisoning in the first place. Setting these standards is often highly politically charged. For example, lowering the blood-lead level that triggers medical or public health agency interventions (which for most of the medical community and the public comes to define the boundary between a "normal" and "lead-poisoned" child) dramatically increases the population of at-risk children, a function critics refer to as "epidemic by edict."[56] Favoring one screening technology over another has huge ramifications for medical technology companies hoping to cash in on enlarged screening programs. Establishing health standards in such a setting requires a mixture of good science, political and marketing savvy, and political will.

It should have been no surprise, then, that as average blood lead levels fell sharply as a consequence of successes in removing lead from the general environment, advocates for universal screening within CDC had increasing difficulty making their case. By the mid-1990s, lead poisoning appeared to be far from the pandemic it had seemed ten years earlier. In 1995, the CDC began reviewing its 1991 recommendations for screening and abatement. At least three related factors pushed CDC toward capitulation. First, the lead industry was successful in manufacturing controversy around the dangers of "low-level" lead exposure through industry-sponsored research and highly public professional and legal attacks on prominent researchers.[57] Second, there arose strong opposition from health care providers unwilling to be saddled with screening for lead poisoning in regions with low prevalence rates—especially in western states where housing stock was predominantly low-lead. In this setting, consensus within the CDC shifted considerably on the question of whether universal screening was a realistic goal. Late in 1997, CDC published new guidelines, calling for "targeted" screening.[58] CDC asserted its faith that targeted screening was in no way a retreat from earlier policies; in fact, screening would increase if localities followed the new guidelines.[59]

And in fact, the number of children younger than age six being screened by state and local authorities reporting to CDC has gradually increased since 1997. More heartening is the continued drop, among those children screened, in the number with blood-leads above 10 µg/dl; CDC recorded data for 130,512 children in 1997 and 74,887 in 2001. But despite some gains, most children are never tested for lead. The percentage of children screened has only risen from 8.6 to 10.8 percent of under-six population. And even among poor children—ostensibly the most obvious targets of "targeted" screening—the record is not much better. Although studies revealed that children who were eligible for Medicaid comprised 60% of those with elevated blood leads, (and over 80% of those with the highest levels), fewer than one in five had been tested for lead.[60]

Consequently, each year medical journals and the popular press report on newly discovered pockets of lead-exposed children, the discovery of which often leads to a flurry of hand-wringing organized activism, accusations, legal action, and political promises. In June 2003, a study sponsored by community activists in Brooklyn and conducted by high school students, revealed that one-third of 59 apartments in the Bedford Stuyvesant neighborhood they tested contained significant lead paint hazards, with levels of lead exposure ranging from five to one hundred times the maximum levels prescribed by EPA guidelines.[61] The story was picked up by local and national media, and the publicity helped assure passage of a new lead paint law. In October, *Detroit Free Press* reporters published an investigation into lead hazards in public housing in that city, revealing that public health inspectors frequently ignored obvious lead paint hazards in mandatory annual inspections of government-subsidized homes for low-income families.[62]

True to the form that has dominated such exposés since the 1950s, both of these articles open with the story of a lead-poisoned child and then pull back to the larger problem.[6] But government policy has opted for the comfort of the "big picture" that reassures that average blood lead levels are steadily ebbing. The government activism of the 1970s to the early 1990s, which started from the premise that no child's invisible lead poisoning should remain so, has crumbled under cost-benefit analysis and the resurgence of the "comforting" impression of childhood lead poisoning as a nearly exclusive disease of poverty.

Alice Hamilton learned first-hand how bracketing the victims of lead poisoning off from the rest of the population led to inertia. Conducting investigations in Salt Lake City for her federal lead survey, Alice Hamilton was astonished when a druggist said he had never seen a case of lead poisoning from the local factories. Then he explained, "Oh, maybe you are thinking of the Wops and Hunkies. I guess there's plenty among them. I thought you meant white men."[63] Hamilton also knew something about the limitations of her state authority as a government official. Looking back at her Progressive-era surveys, she recalled, "I knew that I had no power to cause the managers the slightest discomfort. I was thankful they thought I had."[64] Her successes came from fiercely wielding what regulatory power she had, bolstered by her ability to get plant owners to see their men—even the "Wops and Hunkies" among them—as "fathers and husbands and brothers and sons, real men, individuals" as one enlightened manufacturer told her, and not "a lot of my hands, a part, and a bothersome part, of my machinery."[63]

CONCLUSION

The lessons of Hamilton's career in fighting occupational lead poisoning are amplified in the subsequent shifting fates of campaigns to prevent childhood plumbism. What works is a shared sense of the universality of lead's threat, or at least the "paternalistic" commitment among those in power to protect those most afflicted. What works is regulatory bodies, health providers and communities enlisting the broadest possible coalition of forces to move toward eliminating lead poisoning. This coalition should include industry, whether its participation comes at the point of new restrictions or litigation, or through more voluntary means. All parties in such a coalition must fully acknowledge their competing interests even as they share the same goal. Industry should contribute to, but never be allowed to dominate the field, as it did for much of the twentieth century. And the driving force in this complex process is an empowered and well-funded government regulatory apparatus as science-driven and politically detached as possible.

The federal public health agencies most directly respon-

sible for preventing childhood lead poisoning have come a long way from the days when they busied themselves publishing "little pamphlets" to educate the public, disseminating paint-industry statistics about "safe paints" and regretting their impotence to effect policy. Today the CDC shapes lead poisoning prevention policy and strives determinedly to implement it. This is a power that extends far beyond mere bureaucratic authority. Without the expansive notion of social responsibility that drove Great Society programs, health agencies, no matter how well-funded, will be subject to undue influence from industries (not only lead manufacturers and landlords seeking shelter from liability, but health providers seeking shelter from costly measures such as lead screening). On the other hand, *with* that enlarged sense of moral purpose, the leadership of federal efforts to combat childhood lead poisoning could return to 1991's statement of principle—that universal screening is the gold standard. CDC should insist that targeted screening be considered a compromise—perhaps a necessary capitulation, but a costly one—and work to perfect cheap and effective screening technology and help lower barriers to their adaptation in all lead prevention programs. The "poor may always be with us," as that lead poisoning researcher concluded in 1940, but our leaders can shape our response to that sad fact, and insist that lead poisoning need not be, even among the least of these.

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