

Social Movements in Health

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Abstract

Most public health practitioners know that public health has relied on biomedical advances and administrative improvements, but it is less commonly understood that social movements in health have also been sources of motivation for population health advances. This review considers the impacts of social movements focused on urban conditions and health, on the health of children, and on behavioral and substance-related determinants of health and illustrates how these movements have significantly influenced public health activities and programs. We hope this review will motivate public health workers to make common cause with social activists and to encourage social activists to ally with public health professionals.

INTRODUCTION

Public health has relied on advances in the biomedical sciences and improvements in administrative measures and has been pushed by anxious responses to epidemic and pandemic threats. The links between a robust public health system and increased social stability, greater economic development, and improved biosecurity (against external disease threats and, more recently, the risks of bioterrorism) are also widely acknowledged. But it is less commonly recognized that social movements in health have been persistent and regularly renewed sources of motivation for population health advances in Europe, the United States, and other parts of the world since at least the early 1800s. This review focuses primarily, but not exclusively, on the United States and traces the activities and accomplishments of three types of social movements that continue to play significant roles today: movements focused on urban conditions and health, on children and health, and on behavioral and substance-related determinants of health. Many other social movements have also been of historical and contemporary significance, such as mobilizations around environmental conditions and health, social determinants of health, disability and health, occupational risks and health, and gender and health (1, 3–5, 9, 15, 19, 20, 25, 26, 28, 33, 35, 38, 41, 46, 48, 53, 57–59, 64, 66, 68, 77, 84–86, 88, 91, 99, 101, 103). However, because the history of these movements is so complex and the literature so vast, we focus here only on the first three identified above and hope by example to illustrate how important such an exploration can be.

We are aware, of course, that even the three social movements that are the focus of this review cannot be covered exhaustively within the space available. We are alert, too, to the ways in which the three movements overlap. We try to keep the movements from blurring indiscriminately and concentrate on showing how they separately illustrate the range and importance of popular mobilization in influencing, and often driving, public health activities and programs. We hope that recognizing this central dynamic will encourage public health workers to make common cause with social activists and will motivate social movement leaders to communicate more directly with public health professionals.

URBAN CONDITIONS AND HEALTH

Industrialization, occurring earliest in England at the turn of the nineteenth century, meant that much of the British rural population was drawn into towns and cities to serve as the labor force for the growing factories. As workers crowded into the cities, their living conditions were often horrific and epidemic diseases spread rapidly. The dreadful environmental conditions were compounded by the lack of clean water and any regular form of sanitation, while garbage and animal wastes piled up on the streets.

In Britain, Edwin Chadwick's famous report (in 1842) on the sanitary condition of the laboring population clearly demonstrated that overcrowding, poverty, ill-health, and heavy mortality were closely associated and found together in the same run-down urban areas (46). Infectious diseases were not confined to the slums but instead also threatened the wealthier population living elsewhere in the cities, and some reformers realized that they could draw attention to the risks of the rich to improve the living conditions of the poor (92).

In North America, similarly dreadful living conditions of urban workers, especially of the newly immigrated, were common, as documented in John Griscom's *The Sanitary Condition of the Laboring Population of New York* (1845) (32). The almost unimaginable filth enraged the reformers of the day. By 1865, half a million New York City tenement dwellers lived in 15,000 buildings: One privy might serve five families who would also have to walk a block to the nearest pump because they had no running water (31). To make matters worse, poor

Irish immigrants kept pigs as a means of garbage disposal and eventually as food for the family (36).

In the era before bacteriology, medical theories presumed an intimate relation between dirt and disease. Contagion was believed to be spread by miasmatic clouds formed from heaps of rotting garbage, animal wastes, rubbish, and street dirt (81). To keep the population safe from devastating epidemics, the regular cleaning of city streets would be imperative (6, 42, 45, 72, 73, 93). Sanitary reformers launched passionate “sanitary crusades” and gathered in revival-style conventions that helped stimulate the formation of the American Public Health Association in 1872 (12, 32). They also drew, photographed, and mapped the dirtiest parts of cities and demonstrated that these were also the areas with the highest disease rates. In 1902, New York City employed both women and men in a new Tenement House Department to inspect tenement buildings for health and safety code violations. Reformers such as Lawrence Veiller, head of the Charity Organization Society of New York, maintained pressure by publishing with various collaborators hard-hitting studies of “the tenement house problem” (63, pp. 117–49).

In 1897, a Mayor’s Committee inspected more than 255,000 inhabitants of tenement houses and found that only 306 had access to a bathroom in the house where they lived (36). Sanitary reformers also campaigned for public baths, drinking fountains, and public toilets. Organizations such as the Ladies Health Protective Association kept constant pressure on city politicians. The New York Association for Improving the Condition of the Poor ran the “People’s Baths,” furnished with soap and the newly invented “spray shower baths” (40, 105).

The sanitary reformers believed that better housing would inspire diligence and discipline in poor and working-class citizens; manufacturers felt that better housing would produce healthier and more productive workers and might reduce the militancy of their campaigns for higher wages and reduced working hours (83). Waves of reform thus followed industrial and popular unrest, which in turn usually followed economic downturns. There were strong reform movements in the 1870s and 1890s, and the latter helped spawn the Progressive Movement, which between 1890 and 1920 aimed to improve many of the major problems facing the urban poor (70).

Not all problems were addressed, however, and to some extent people simply moved away from them. The streetcar offered one escape route and allowed movement to the suburbs for those who could afford to leave (51). The suburban home increasingly became a safe haven distant from the dangers of city life, with the ideal home resting in the middle of a manicured lawn and flowering garden.

After the Great Depression, President Franklin D. Roosevelt established the Federal Housing Division of the Public Works Administration. Between 1934 and 1937, the Division constructed 52 housing projects throughout the United States. The first housing projects were designed with row housing or apartment buildings, circling open spaces for children to play, and intended for both middle- and working-class tenants. After 1937, the new United States Housing Division (later, Authority) constructed thousands of housing units. As part of World War II mobilization, Congress asked the US Housing Authority to build 20 public housing developments to provide housing for the thousands of people coming to work in factories manufacturing military goods. After the war, increasing numbers of people could afford to buy homes. As whites in particular could afford to move out of the cities, housing became increasingly segregated in the phenomenon known as white flight.

The Housing Act of 1949 had the goal of a “decent home in a decent environment for every American.” President Truman declared that the federal government would aid the cities in clearing slums and rebuilding blighted areas, a process to be known as urban renewal. For many cities, urban renewal meant razing old housing and building new, although the new housing rarely provided enough homes for all those displaced from their old neighborhoods. Entire neighborhoods

were also demolished to facilitate highway construction. A number of organizers led movements to prevent the razing of houses to make way for highways. Barbara Mikulski, then a young social worker, now a US Senator, created lively community organizations in Baltimore: MAD (Movement Against Destruction), RAM (Relocation Action Movement), and SCAR (Southeast Council Against the Road) (37).

Jane Jacobs, another campaigner against “urban renewal,” described the new construction as “[l]ow-income projects that become worse centers of delinquency, vandalism, and general social hopelessness than the slums they were supposed to replace” (52, p. 4). Despite many efforts to solve the urban housing crisis, the general pattern remained: Those who could afford to fled to the suburbs, leaving behind low-income families. The segregation by income was also a segregation by race, and such social realities contributed to neighborhood deterioration.

There are many health hazards in poor housing areas. Living areas may be damp, dark, lacking ventilation, and dilapidated. In the nineteenth and early twentieth century, the most important health consequences were the spread of contagious diseases and the prevalence of tuberculosis. Tuberculosis took up residence in the slums and tenements, affecting large numbers of families (2, 69, 79). In the mid- to late twentieth century, a major health problem closely tied to tenement housing has been lead poisoning (66, 67, 100). Lead paint flaking off the walls of older housing was eaten by young children, resulting in multiple dangers: death, disease, learning disabilities, and behavioral disturbances. Among the most effective social movements leading to urban public health improvements were the antituberculosis crusades organized in the 1910s and 1920s (18, 89, 95) and the anti-lead poisoning crusades starting in the 1960s and continuing, with some refocusing, to the present (21).

THE HEALTH OF CHILDREN

Social movements in public health have also long been organized around the pressing needs of vulnerable populations. Beginning in the early nineteenth century and continuing to the present, the needs of children have drawn attention, galvanized support, and helped set the agenda for public health. The primary needs of children have changed over time, but starting even before the early 1800s children have been the focus of sympathetic attention and often social mobilization.

Focused attention on children can actually be traced back to the eighteenth century, when certain Enlightenment authors worried about their neglect and safety and began highlighting the risks children faced in both living and working environments and sometimes in schools (80). Enlightenment concerns also led to the creation of dispensaries and founding institutions for poor and abandoned children, but the first widespread efforts to “save the children” did not begin until the early nineteenth century. The horrific poverty and filth in which children lived in the countryside and major cities of the Industrial Revolution and the horrors of abusive child labor practices in the mills, mines, and factories became particular objects of concern. An international child welfare movement prompted the formation of child protective organizations and investigative commissions, which by the second half of the nineteenth century led, in both Europe and the United States, to mine and factory legislation regulating the hours and conditions of child labor (65).

In the later years of the nineteenth century and at the turn of the twentieth, child welfare campaigns broadened to include attempts to repair nutritional deficits by encouraging breastfeeding and by arranging for the charitable and municipal provision of clean milk (71). Broad efforts were undertaken to improve maternal health, train mothers in proper childrearing techniques, and combat poverty directly as both maternal ignorance and overwhelming economic challenges were thought to contribute to excessive child and infant mortality (55, 56, 74, 90). These transatlantic

concerns were often driven by emergent pediatric and public health nursing professionals and a variety of reform organizations such as the New York Association for Improving the Condition of the Poor and the International Union for the Protection of Infant Life (10, 22, 32). In these advocacy organizations, child health providers joined forces with muckraking journalists, clergymen, philanthropists, politicians, women reformers, visiting nurses, and public health leaders (16, 24, 39).

In the United States, the child health and welfare campaign reached new heights during America's activist Progressive Era. The National Child Labor Committee, formed in 1904, documented the continuing horrors and health-destroying effects of child labor in its *Child Labor Bulletin* and amplified the impact of its published findings by illustrating them with the pioneering documentary photographs of Lewis Hine (27). Another major Progressive Era advocacy organization for child health was the American Association for the Study and Prevention of Infant Mortality (AASPIM), established in 1909 (13). AASPIM became the coordinator for a wide range of reform organizations, which lobbied for the creation of municipal, state, and federal agencies modeled on New York City's Division of Child Hygiene launched in 1908 under Dr. S. Josephine Baker (71).

In 1909 the federal government convened the first White House Conference on Children, which led to the creation by Congress of the Children's Bureau in 1912 as the first health and welfare agency within the federal government (62). The Bureau's mission was to investigate and report on "all matters pertaining to the welfare of children and child life among all classes of people." It was led for nine years by Julia Lathrop, who had begun her reform career some years before as one of Jane Addams's associates at Hull House in Chicago. Under Lathrop and with the strong support of child health and women's advocacy groups and publications, the Bureau pursued a series of studies on the extent and causes of infant mortality in various American communities. With solid data to support its case, the Bureau and its allies pushed for a program of federal matching funding for state-based infant and maternal welfare initiatives, which was created under the Sheppard-Towner Maternity and Infant Protection Act overwhelmingly approved by Congress and signed into law in 1921.

The Sheppard-Towner Act led to many advances, not least the creation of 3,000 child and maternal health care centers across the United States. Nevertheless, the Act was opposed from the start by conservative political forces and by various branches of organized medicine, including the American Medical Association (AMA) (71). On the other hand, Sheppard-Towner programs were strongly defended by a number of women's groups, organized labor, public health professionals, the American Child Health Association, and other child advocacy organizations, and by reform-oriented pediatricians who broke away from the AMA to form the American Academy of Pediatrics. Despite these efforts, Congress allowed the Act to expire in 1929, yet in the depths of the Depression many Sheppard-Towner measures were restored or expanded as parts of President Franklin Roosevelt's New Deal. The principal New Deal mechanisms were Titles IV and V of the 1935 Social Security Act, which allowed the Children's Bureau to make matching grants to state child-welfare agencies and to promote the health of poor mothers and children through maternal and child health services.

Other major advances came in the midst of World War II under the auspices of the Emergency Maternity and Infant Care (EMIC) program (96), which provided free pregnancy and postpartum health care to the wives of military personnel as well as pediatric care for their younger children. Despite allegations of socialism by certain physicians and their allies, EMIC was widely popular—even drawing support from the politically conservative American Legion—and substantially improved the accessibility and safety of maternal, postpartum, and pediatric medical services.

These improvements in medical care, combined with new social policy initiatives such as the 1946 National School Lunch Program and growing postwar prosperity, led to dramatic declines

in infant and maternal mortality. However, a few years later evidence quickly accumulated that the downward trend in infant mortality had leveled off in the 1950s in the United States but not in other developed countries. By the early 1960s, this recognition led to the rediscovery of infant mortality as a major American problem, which particularly affected poor and minority children (71, 79).

The 1960s was a new era of reform in the United States, and the reform of children's health was a major priority. During the Kennedy administration, initiatives included the passage of the Vaccination Assistance Act in 1962 to provide vaccines for children under age 5 and the Comprehensive Community Mental Health Centers Act of 1963 to fund clinics for child and adult mental health (44). Efforts to improve the health and welfare of children were even more marked in the Johnson administration, starting with the passage the Economic Opportunity Act (EOA) in 1964. The EOA, among other things, funded the Head Start program, which made available a range of social, educational, nutritional, and health services to low-income preschool children. The EOA also funded pioneering neighborhood health centers to provide comprehensive primary care to poor inner-city and rural children who would not otherwise have access to these services (30, 60). In addition, the Johnson administration improved nutritional options for poor children with the Supplemental Nutrition Assistance Program (Food Stamps) of 1964 and the Child Nutrition Act of 1966, which amended the 1946 School Lunch Act to provide breakfast to low-income children. Most important, however, was the passage of Medicaid in 1965, which greatly improved access to medical care for poor children.

In the 1970s, many of the Great Society programs continued through the Nixon, Ford, and Carter administrations. Funds for childhood immunization were also increased. In 1972 the Child Nutrition Act was amended to create a supplemental food program for Women, Infants and Children (WIC), which was intended to meet the nutritional needs of pregnant and postpartum mothers and children up to age 5. But as the 1970s progressed, the efficacy of many of these programs was challenged despite the fact that infant mortality, which had begun to drop significantly in 1965, continued to drop at an annual rate of 4.4% in the 1970s (61). Not only were successful programs challenged for ideological reasons, but the circumstances of children looked even more dire when the Willowbrook scandal broke in early 1972, revealing that mentally disabled children at the Willowbrook State School on Staten Island, New York, had been living for years in overcrowded and unsanitary conditions and had been subjected to unethical experiments by medical researchers (87). Outraged reaction led to passage of the Civil Rights of Institutionalized Persons Act of 1980 by the US Congress. Leading some of the public outcry was a new nonprofit advocacy group, the Children's Defense Fund (CDF), founded in 1973 by Marian Wright Edelman as an extension of her dedicated work in the Civil Rights and antipoverty movements. The CDF, in addition to its efforts to protect all children from abuse and neglect, was also strongly committed to raising children from poverty and ensuring their access to medical care and a decent education (34).

Ever since its founding, the CDF has been a major force in improving the health and well-being of American children. In 1975, its advocacy work helped pass the Education for All Handicapped Children Act, which created a federal right to education for millions of disabled children. In the early 1980s, the CDF targeted Reagan administration policies and pushed for Medicaid expansion rather than contraction. By the end of the 1980s, the CDF and other activist groups had worked effectively to extend Medicaid coverage to large numbers of children and pregnant women below the poverty line. In the 1990s, the CDF promoted adolescent pregnancy-prevention programs and helped assure passage of the Vaccine for Children program to immunize all children against childhood diseases. In 1996, the CDF organized Stand for Children, the largest mass demonstration for children in US history, which saw 300,000 people assembled at the Lincoln Memorial in Washington, DC. In 1997, the CDF effectively pushed for federal legislation that established the State Children's Health Insurance Program (SCHIP) to cover uninsured children in families

whose incomes were limited but too high to qualify for Medicaid. By 2002, the CDF had helped shape Medicaid legislation so that all children through age 18 living in families below the poverty line were eligible for coverage.

Despite the heroic efforts of the CDF and its allies, in the early twenty-first century many of America's poor children still face significant challenges. Children in homeless and immigrant families have been particularly vulnerable (49), and in response to their needs the CDF has partnered with the National Coalition for the Homeless and other advocacy organizations in efforts to improve the lives and health chances of these children. Yet major gaps persist, and the Affordable Care Act (ACA) of 2010 has thus far gone only a relatively short distance to bridge them. There is still, obviously, a very large role for advocacy groups and grassroots organizations to play in mobilizing support for child health and welfare improvements in the United States.

BEHAVIORAL AND SUBSTANCE-RELATED REFORM MOVEMENTS

In addition to mobilizing in response to the horrors of urban environments and the needs of children, social movements for public health have also been regularly inspired by a passion to change individuals and their unhealthy habits and behaviors (82). Whether aimed at improving personal fitness and diet or at ending the abuse of substances such as alcohol, nonprescription drugs, and tobacco, these movements have often served as alternatives to campaigns directed at external risks and socially embedded inequities. Redirection from societal realities to "faulty" individuals has often been unconscious, but the shift from interrogating exogenous circumstances to critiquing individual behavior has had profound consequences (32).

Sweeping broadly across the nineteenth and twentieth centuries, these movements were first characterized by "hygienic crusades" originally conceived as uplifting moral campaigns aimed at more affluent members of society, which were then retargeted to focus increasingly on working-class and immigrant populations. Two such campaigns in the United States were those directed at inadequate exercise and inappropriate diet. Supporters of the physical exercise movement, who originally focused on the well-off lazy and unfit, by 1900 successfully campaigned for legislation that mandated physical education as a requirement in the public schools and, by 1910, saw the creation of thousands of open-access playgrounds across the country (43, 102). Similarly, dietetic reformers moved by 1900 from worrying about improving the eating habits of the economically comfortable to providing healthy, nutritious, productivity enhancing "American" meals to working-class and immigrant populations (104).

On a scale larger than any of these two was the mass campaign that aimed to control alcohol consumption in the United States. Beginning around 1800 and marked by the founding of the American Temperance Society in 1826, the temperance movement swept in several reform waves across the nineteenth century and into the twentieth (7). A powerful wave at the end of the nineteenth century led by the Anti-Saloon League founded in 1893 aimed to shut down public drinking establishments in working-class and immigrant neighborhoods while turning a blind eye to the private drinking habits of the "better classes."

Each wave of temperance reform moved from attempts at moral persuasion to mobilization of political pressure for coercive legal regulation. These reform efforts culminated in the Eighteenth Amendment to the United States Constitution, which created the National Prohibition Act in 1920. Prohibition was repealed in 1933 largely for political reasons because national leaders convinced voters that the Federal government, for its Depression-era relief programs, desperately needed the foregone revenues associated with taxes on alcohol consumption. Even after repeal, a few states remained dry and all of them continued some legal restrictions on alcohol sales and service (8).

After the return to restricted but sanctioned alcohol consumption, national attention shifted from the dangers of alcoholic beverages per se to the disease of “alcoholism” (17, 97, 98). The 1930s saw new medical programs, often under the supervision of psychiatrists, and rapidly growing Alcoholics Anonymous (AA) chapters. It was common for medical treatment and self-help to overlap, as medical personnel frequently referred alcoholic patients to AA meetings and AA meetings often took place in medical treatment facilities. In this mid-twentieth-century period, the legally controlled and commercially promoted general consumption of alcohol was not considered morally troubling or a public health problem, and primary concern focused on those individuals suffering from alcoholism who, because of their medical condition, could not control their drinking.

Later in the twentieth century, a preventive focus returned to alcohol and its dangers, and this shift was driven both by advances in alcohol epidemiology and increased knowledge of the biological consequences of chronic alcohol abuse and by new forms of political mobilization energized by attention to the innocent victims of those who consumed alcohol irresponsibly, as in the cases of fetal alcohol syndrome and alcohol-related automobile fatalities (98). Key grassroots groups such as Mothers Against Drunk Driving and Students Against Drunk Driving have led this mobilization, which grew especially rapidly during the 1980s. Public and media attention has been matched by growing professional public health interest, with a general trend to portray alcohol as a chemical dependency-producing substance now frequently discussed in language borrowed from the century-long campaign against the abuse of nonprescription drugs and the recurrent war on their illicit use.

Nonprescription drug abuse has been seen as a major problem in the twentieth and twenty-first centuries, yet abuse began long before and was widespread in the nineteenth century although it was often inadvertent and commonly produced with medical sanction (23, 47, 75). The opioid content of many prescribed medications and of a large number of over-the-counter and patent medicines was high and frequently addicting. As the danger of opiate dependency became more apparent, patients began to shift to the newly available alkaloids cocaine and heroin as putatively nonaddicting substitutes, which were sometimes used recreationally. For most of the nineteenth century the consumers of all these substances were middle-class whites, often women, but by the end of the century opium began to be consumed in a new form—smoked opium—which was often used by Chinese immigrants in urban centers and by some socially marginal whites who were attracted to opium dens.

The shift in the consumers and the sites and purposes of use contributed to major changes in public tolerance of opium and related substances. Part of this had to do with anti-immigrant and specifically anti-Chinese sentiment, and the first legal measures in the United States were California’s bans on opium dens and later on the nonprescription sale of opium and cocaine. Other states, responding to the early-twentieth-century surge of prohibitionist politics, also initiated antidrug measures, but federal efforts to control opium use were tied to American diplomatic maneuvers to improve relations with China by demonstrating a strong antiopium stance. Following its endorsement in the early teens of international opium conventions calling for control of the sale and consumption of opium and related products “by national legislation,” the United States passed the Harrison Narcotics Tax Act in 1914 (10, 14, 75). The Harrison Act regulated “all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations.” A doctor was allowed to write prescriptions for these substances but “in the course of his professional practice only,” which both Federal Treasury agents and the Supreme Court interpreted narrowly to mean that physicians could prescribe for the management of pain and similar symptoms but not for the treatment of chronic addiction. This restrictive application of the law had the negative effects of discouraging

physicians from treating addicts and undercutting maintenance programs that some localities had already initiated (54).

Other major problems were also associated with the implementation of the Harrison Act, most of them connected with the policies and practices of the first federal drug agency, the Federal Bureau of Narcotics (FBN) (75). The FBN grew as a Treasury Department enforcement division under the Prohibition laws and was transformed into a separate agency in 1930. With its new status and despite the end of Prohibition in 1933, the FBN continued to pursue strict and punitive measures. The FBN also worked with Congressional allies in the 1930s to create a new law criminalizing marijuana use and, in the 1950s, to enact the extraordinarily severe drug penalties of the Boggs Act of 1951 and the Narcotic Drug Control Act of 1956. The Boggs Act called for mandatory minimum two-year sentences for first narcotics possession offenses, and the Narcotic Drug Control Act called for ten- to forty-year sentences for third-time drug possession and the death penalty for anyone convicted of selling heroin to a minor.

These overzealous initiatives of the FBN led, ultimately, to widespread public reaction and a significant softening of national attitudes. These shifts were reinforced by an emboldened legal profession and judiciary and by the rise of a powerful and well-funded mental health establishment. Already in the 1950s, the American Bar Association questioned the efficacy of severe legal penalties for drug possession and use and established a joint exploratory committee on Narcotic Drugs with the AMA. In 1962 the Supreme Court declared that addiction was a disease and not a crime; additionally, mandatory drug penalties were criticized by judges and prosecutors around the country and by the Federal Bureau of Prisons and the American Psychiatric Association. These shifts indicated a new willingness to consider public health and medical interventions rather than punishment for addiction, and one important form this took was a return to older maintenance strategies now in the shape of methadone clinics.

Over the course of the next several presidential administrations, a new national drug policy took shape (76). Gradually, four basic components were put into place: attempted interdiction of drug trafficking both at sources of international origin and at the US borders; bureaucratic reorganization of government agencies to modernize drug law enforcement; improved access to treatment for drug users, including methadone maintenance for heroin addicts; research, education, and legal reform aimed at sorting out the truly dangerous drugs from the less dangerous and at finding ways of preventing use of the former while moving toward decriminalization of the latter.

In the late 1970s a grassroots rebellion sprang up to oppose the drift toward marijuana tolerance and decriminalization. This so-called Parents Movement was a backlash to the gains made by liberal organizations such as the National Organization for the Reform of Marijuana Laws (NORML), which had enjoyed considerable success in popular and professional circles during the 1970s. When Ronald Reagan became president in 1980, he threw his support behind the Parents Movement and launched an aggressive new war on traffickers, suppliers, and users. Late in Reagan's administration, Congress created the Office of National Drug Control Policy headed by William Bennett as the first federal "Drug Czar." It was significant that during Reagan's first term, \$1.4 billion was spent for interdiction and enforcement and only \$362 million spent on education, prevention, and rehabilitation. The administrations of George H.W. Bush, William Clinton, and George W. Bush sought to find the right balance in national drug policy; Clinton's administration was most clearly committed to tilting the scales away from interdiction, incarceration, and other forms of enforcement (47, 50). During Barack Obama's presidency, a public health-oriented set of policies have reemerged, although the administration has also opposed the legalization of marijuana as recently legislated in Colorado and Washington (29).

Throughout this sad and often sordid history, public health professionals have provided strong advocacy for humane and user-focused preventive and rehabilitative drug policies. Already in 1914,

American Public Health Association President Dr. Charles E. Terry promoted the free provision of maintenance drugs to opium addicts as a harm-reduction strategy. In the 1950s, the public health community also supported the efforts of the American Bar Association and the American Psychiatric Association to shift from viewing addiction as a crime to seeing it as a preventable and treatable medical condition. During President Clinton's administration, Department of Health and Human Services Secretary Donna Shalala endorsed needle-exchange programs as a useful harm-reduction strategy for heroin-addicted HIV/AIDS patients (29). During the Obama administration, the public health community contributed to the National Drug Control Strategy of 2012, which backs away from the "war on drugs" and includes emphasis on early interventions "to prevent illicit drug use and addiction before their onset and bring more Americans in need of treatment into contact with the appropriate level of care" (p. v).

The reform and advocacy role played by public health professionals in the campaign for more rational and user-focused drug policies has also been significant in the struggles against cigarettes and their dangers. Tobacco use was already recognized by some as a health threat in the nineteenth century, but the intensity of concern grew in the twentieth century as the frequency of cigarette smoking rapidly increased and its true dangers became apparent (11). Steadily, scientific evidence of smoking's harm began to provide a counterweight to the power of cigarettes in popular culture and the persuasiveness of the industry's advertising. By the 1950s, the clear implications of rigorous epidemiological studies on lung cancer and coronary artery disease were able to break through widespread industry-exonerating presumptions of the cigarette's safety and the smoker's self-induced risk, if any. In the United States, campaigns by physicians, public health leaders, and consumer groups partially overcame the strong and effective political resistance that was well-funded and carefully orchestrated by the tobacco companies. In 1962, the Surgeon General appointed an Advisory Committee on Smoking and Health, and Congress in 1965 passed the Federal Cigarette Labeling and Advertising Act requiring that all cigarette packets carry a warning label.

In the 1970s and 1980s, continuing scientific research and public health advocacy widened into concerns about the risks of environmental or secondhand smoke and the dangers of nicotine's biologically addictive properties. Public campaigns organized around the first issue by civic action organizations such as the Group Against Smoking and Pollution (GASP) and the Association for Non-Smokers' Rights (ANR) led to bans on public smoking in local community venues and workplaces and to national action spearheaded by the US Surgeon General, the National Academy of Sciences, and federal regulatory agencies. By the late 1980s, public and media opinion turned strongly against the tobacco companies, largely because of exposure of the nicotine issue and the long history of industry deceit tied to it. Liability lawsuits through the discovery process revealed shocking evidence in previously secret tobacco industry documents about the deliberate manipulation of addicting nicotine levels in cigarettes. By the early 1990s, these public revelations and detailed testimony by industry whistle-blowers fueled public outrage that led by the mid-1990s to multibillion dollar class action lawsuits, many of them brought by state attorneys general.

In response to an increasingly hostile political, legal, and cultural environment and the continuing decline of smoking in the United States, tobacco companies accelerated their marketing efforts outside the country and especially in the developing world (11, 78). The rapid escalation in worldwide tobacco consumption led by 2003 to the World Health Organization Framework Convention on Tobacco Control (FCTC) as a global response to an increasingly menacing global pandemic. The FCTC has its supporters and detractors, who see it either as a promising first step or as a weak effort headed for sabotage and failure. It seems safe to suggest, however, that the widespread social movements now directed against transnational tobacco companies and their drive for profits at all costs have resulted in a partial return to a focus on dangerous exogenous

agents and the social determinants of health that the intensive concern for individual health-risking behaviors has long helped to disguise.

CONCLUSION

The historical evidence reviewed here leads compellingly to the conclusion that social movements and political mobilization have regularly advanced population health in the past and today remain significant sources of energy and motivation to meet ongoing challenges. They will likely continue long into the future as among the most important drivers of public health improvements because it appears indisputable that there is real power, often for good, in social movements and collective political action (94).

DISCLOSURE STATEMENT

The views expressed in this article are those of the authors and not necessarily those of any of the institutions with which they are affiliated. The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

LITERATURE CITED

1. Barnartt SN, Scotch R. 2001. *Disability Protests: Contentious Politics 1970–1999*. Washington, DC: Gallaudet Univ. Press
2. Barnes DS. 1995. *The Making of a Social Disease: Tuberculosis in Nineteenth-Century France*. Berkeley: Univ. Calif. Press
3. Bayer R, ed. 1988. *The Health and Safety of Workers: Case Studies in the Politics of Professional Responsibility*. New York: Oxford Univ. Press
4. Bhattacharya S, Messenger S, Overy C. 2010. *Social Determinants of Health: Assessing Theory, Policy and Practice*. New Dehli: Orient BlackSwan
5. Birn AE, Brown TM, eds. 2013. *Comrades in Health: U.S. Health Internationalists, Abroad and at Home*. Piscataway, NJ: Rutgers Univ. Press
6. Blake N. 1956. *Water for the Cities: A History of the Urban Water Supply Problem in the United States*. Syracuse, NY: Syracuse Univ. Press
7. Blocker JS. 1989. *American Temperance Movements: Cycles of Reform*. Boston: Twayne
8. Blocker JS. 2006. Did prohibition really work? Alcohol prohibition as a public health innovation. *Am. J. Public Health* 96:233–43
9. Blum ED. 2008. *Love Canal Revisited: Race, Class, and Gender in Environmental Activism*. Lawrence: Univ. Press Kansas
10. Borowy I. 2009. *Coming to Terms with World Health: The League of Nations Health Organisation, 1921–1946*. Frankfurt: Peter Lang
11. Brandt A. 2007. *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product That Defined America*. New York: Basic Books
12. Brieger G. 1966. Sanitary reform in New York City: Stephen Smith and the passage of the Metropolitan Health Bill. *Bull. Hist. Med.* 40:407–29
13. Brosco JP. 1999. The early history of the infant mortality rate in America: a reflection upon the past and a prophecy of the future. *Pediatrics* 103:478–85
14. Brown LS. 1981. Substance abuse and America: historical perspective on the federal response to a social phenomenon. *J. Natl. Med. Assoc.* 73:497–506
15. Brugge D, Benally T, Yazzie-Lewis E, eds. 2006. *The Navajo People and Uranium Mining*. Albuquerque: Univ. N.M. Press

16. Buhler-Wilkerson K. 1993. Bringing care to the people: Lillian Wald's legacy to public health nursing. *Am. J. Public Health* 83:1778-86
17. Burnham JC. 1993. *Bad Habits: Drinking, Smoking, Taking Drugs, Gambling, Sexual Misbehavior, and Swearing in American History*. New York: N.Y. Univ. Press
18. Caldwell M. 1988. *The Last Crusade: The War on Consumption, 1862-1954*. New York: Atheneum
19. Clark C. 1997. *Radium Girls: Women and Industrial Health Reform, 1910-1935*. Chapel Hill: Univ. N.C. Press
20. Coleman W. 1982. *Death is a Social Disease: Public Health and Political Economy in Early Industrial France*. Madison: Univ. Wis. Press
21. Colgrove J. 2011. *Epidemic City: The Politics of Public Health in New York*. New York: Russell Sage Found.
22. Comacchio CR, Golden J, Weisz G, eds. 2008. *Healing the World's Children: Interdisciplinary Perspectives on Child Health in the Twentieth Century*. Montreal: McGill-Queens Univ. Press
23. Courtwright DT. 2001. *Dark Paradise: Opiate Addiction in America before 1940*. Cambridge, MA: Harvard Univ. Press
24. Davis A. 1985. *Spearheads for Reform: The Social Settlements and the Progressive Movement, 1890 to 1914*. New Brunswick, NJ: Rutgers Univ. Press
25. Derickson A. 1989. *Workers' Health, Workers' Democracy: The Western Miners' Struggle, 1891-1925*. Ithaca, NY: Cornell Univ. Press
26. Derickson A. 1991. The United Mine Workers of America and the recognition of occupational respiratory diseases, 1902-1968. *Am. J. Public Health* 81:782-90
27. Derickson A. 1992. Making human junk: child labor as a health issue in the Progressive Era. *Am. J. Public Health* 82:1280-90
28. Derickson A. 2013. "Nuisance Dust": unprotective limits for exposure to coal mine dust in the United States, 1934-1969. *Am. J. Public Health* 103:238-49
29. Des Jarlais DC, McKnight C, Goldblatt C, Purchase D. 2009. Doing harm reduction better: syringe exchange in the United States. *Addiction* 104:1441-46
30. Dittmer J. 2009. *The Good Doctors: The Medical Committee for Human Rights and the Struggle for Social Justice in Health Care*. New York: Bloomsbury
31. Duffy J. 1974. *A History of Public Health in New York City, 1866-1966*. New York: Russell Sage Found.
32. Duffy J. 1990. *The Sanitarians: A History of American Public Health*. Urbana: Univ. Ill. Press
33. Dunlap TR. 1981. *DDT: Scientists, Citizens, and Public Policy*. Princeton, NJ: Princeton Univ. Press
34. Edelman MW. 1980. *Portrait of Inequality: Black and White Children in America*. Washington, DC: Children's Defense Fund
35. Estabrook T. 2007. *Labor-Environmental Coalitions: Lessons from a Louisiana Petrochemical Region*. Amityville, NY: Baywood
36. Fee E, Corey SH. 1994. *Garbage!: The History and Politics of Trash in New York City*. New York: N.Y. Public Libr.
37. Fee E, Shopes L, Zeidman L, eds. 1991. *The Baltimore Book: New Views of Local History*. Philadelphia: Temple Univ. Press
38. Fleischer DZ, Zames F. 2011. *The Disability Rights Movement: From Charity to Confrontation*. Philadelphia: Temple Univ. Press
39. Frankel N, Dye NS, eds. 1991. *Gender, Class, Race, and Reform in the Progressive Era*. Lexington, KY: Univ. Ky. Press
40. Glassberg D. 1979. The design of reform: the public bath movement in America. *Am. Stud.* 20:5-21
41. Gottlieb R. 1993. *Forcing the Spring: The Transformation of the American Environmental Movement*. Washington, DC: Island Press
42. Goubert JP. 1989. *The Conquest of Water: The Advent of Health in the Industrial Age*. Transl. A Wilson. Princeton, NJ: Princeton Univ. Press
43. Green H. 1986. *Fit for America: Health, Fitness, Sport, and American Society*. New York: Pantheon
44. Grob GN. 1994. *The Mad Among Us: A History of the Care of America's Mentally Ill*. New York: Free Press
45. Hamlin C. 1990. *A Science of Impurity: Water Analysis in Nineteenth Century Britain*. Berkeley: Univ. Calif. Press

46. Hamlin C. 1998. *Public Health and Social Justice in the Age of Chadwick's Britain, 1800–1854*. Cambridge, UK: Cambridge Univ. Press
47. Hanson GR, Venturelli PJ, Fleckenstein AE. 2011. *Drugs and Society*. Burlington, MA: Jones & Bartlett
48. Hays SP. 1987. *Beauty, Health, and Permanence: Environmental Health and Politics in the United States, 1955–1985*. New York: Cambridge Univ. Press
49. Holmes S. 2013. *Fresh Fruit, Broken Bodies: Migrant Farmworkers in the United States*. Berkeley: Univ. Calif. Press
50. Inciardi JA, Harrison LD. 2000. *Harm Reduction: National and International Perspectives*. New York: Sage
51. Jackson KT. 1986. *Crabgrass Frontier: The Suburbanization of the United States*. Oxford, UK: Oxford Univ. Press
52. Jacobs J. 1961. *The Death and Life of Great American Cities*. New York: Vantage Books
53. Johnson RA. 1983. Mobilizing the disabled. In *Social Movements of the Sixties and Seventies*, ed. J Freeman, pp. 82–100. London: Longman
54. Jonnes J. 1995. The rise of the modern addict. *Am. J. Public Health* 85:1157–62
55. Klaus A. 1993. *Every Child a Lion: The Origins of Maternal and Infant Health Policy in the United States and France, 1890–1920*. Ithaca, NY: Cornell Univ. Press
56. Koven S, Michel S, eds. 1993. *Mothers of a New World: Maternalist Politics and the Origins of Welfare States*. New York: Routledge
57. Krieger N, Birn AE. 1998. A vision of social justice as the foundation of public health: commemorating 150 years of the spirit of 1848. *Am. J. Public Health* 88(11):1603–6
58. Krieger N, Fee E. 1994. Man-made medicine and women's health: the biopolitics of sex/gender and race/ethnicity. *Int. J. Health Serv.* 24(2):265–83
59. Lane H. 1992. *The Mask of Benevolence: Disabling the Deaf Community*. New York: Knopf
60. Lefkowitz B. 2007. *Community Health Centers: A Movement and the People Who Made It Happen*. New Brunswick, NJ: Rutgers Univ. Press
61. Levy BS, Sidel VW, eds. 2006. *Social Injustice and Public Health*. Oxford, UK: Oxford Univ. Press
62. Lindenmeyer K. 1997. *A "Right to Childhood": The U.S. Children's Bureau and Child Welfare, 1912–1946*. Urbana: Univ. Ill. Press
63. Lubove R. 1962. *The Progressives and the Slums: Tenement House Reform in New York City, 1890–1917*. Pittsburgh, PA: Univ. Pittsburgh Press
64. Mansbridge JJ, Morris AD, eds. 2001. *Oppositional Consciousness: The Subjective Roots of Social Protest*. Chicago: Univ. Chicago Press
65. Markel H, Golden J. 2005. Successes and missed opportunities in protecting our children's health: critical junctures in the history of children's health policy in the United States. *Pediatrics* 115(Suppl.):1129–33
66. Markowitz G, Rosner D. 2002. *Deceit and Denial: The Deadly Politics of Industrial Pollution*. Berkeley: Univ. Calif. Press
67. Markowitz G, Rosner D. 2013. *Lead Wars and the Fate of America's Children*. Berkeley: Univ. Calif. Press
68. Matson FW. 1990. *Walking Alone and Marching Together: A History of the Organized Blind Movement in the United States, 1940–1950*. Baltimore, MD: Natl. Fed. Blind
69. McBride D. 1991. *From TB to AIDS: Epidemics among Urban Blacks since 1900*. New York: State Univ. N.Y. Press
70. McGerr M. 2003. *A Fierce Discontent: The Rise and Fall of the Progressive Movement in America, 1870–1920*. Oxford, UK: Oxford Univ. Press
71. Meckel R. 1990. *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality, 1850–1929*. Baltimore, MD: Johns Hopkins Univ. Press
72. Melosi MV, ed. 1980. *Pollution and Reform in American Cities, 1870–1930*. Austin: Univ. Tex. Press
73. Melosi MV. 2008. *The Sanitary City: Environmental Services in Urban America from Colonial Times to the Present*. Pittsburgh, PA: Univ. Pittsburgh Press
74. Muncy R. 1991. *Creating a Female Dominion in American Reform, 1890–1935*. Oxford, UK: Oxford Univ. Press
75. Musto DF. 1973. *The American Disease: Origins of Narcotic Control*. New Haven, CT: Yale Univ. Press
76. Musto DF, Kormeyer P. 2002. *The Quest for Drug Control: Politics and Federal Policy in a Period of Increasing Substance Abuse, 1963–1981*. New Haven, CT: Yale Univ. Press

77. Pelka F. 2012. *What Have We Done: An Oral History of the Disability Rights Movement*. Amherst: Univ. Mass. Press
78. Proctor RN. 2012. *Golden Holocaust: Origins of the Cigarette Catastrophe and the Case for Abolition*. Berkeley: Univ. Calif. Press
79. Roberts SK. 2009. *Infectious Fear: Politics, Disease, and the Health Effects of Segregation*. Chapel Hill: Univ. N.C. Press
80. Rosen G. 1993 (1956). *A History of Public Health*. Baltimore, MD: Johns Hopkins Univ. Press
81. Rosenberg C. 1987. *The Cholera Years: The United States in 1832, 1849, and 1866*. Chicago: Univ. Chicago Press
82. Rosenberg C, ed. 2003. *Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*. Baltimore, MD: Johns Hopkins Univ. Press
83. Rosner D, ed. 1995. *Hives of Sickness: Public Health and Epidemics in New York City*. New Brunswick, NJ: Rutgers Univ. Press
84. Rosner D, Markowitz G, eds. 1987. *Dying for Work: Workers' Safety and Health in Twentieth Century America*. Bloomington: Indiana Univ. Press
85. Rosner D, Markowitz G. 1991. *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth-Century America*. Princeton, NJ: Princeton Univ. Press
86. Rosner D, Markowitz G. 1997. The early movement for occupational safety and health. In *Sickness and Health in America*, ed. JW Leavitt, RL Numbers, pp. 467–81. Madison: Univ. Wis. Press. 3rd ed.
87. Rothman DJ, Rothman SM. 1982. *The Willowbrook Wars: A Decade of Struggle for Social Justice*. New York: Harper & Row
88. Shapiro JP. 1993. *No Pity: People with Disabilities Forging a New Civil Rights Movement*. New York: Random House
89. Shryock RH. 1957. *National Tuberculosis Association, 1904–1954: A Study of the Voluntary Health Movement in the United States*. New York: Natl. Tuberc. Assoc.
90. Skocpol T. 1992. *Protecting Soldiers and Mothers: The Politics of Social Provision in the United States, 1870s–1920s*. Cambridge, MA: Harvard Univ. Press
91. Smith S. 1995. *Sick and Tired of Being Sick and Tired: Black Women's Health Activism, 1890–1950*. Philadelphia: Univ. Pa. Press
92. Szreter S. 2005. *Health and Wealth: Studies in History and Policy*. Rochester, NY: Univ. Rochester Press
93. Tarr JA. 2011. *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective*. Akron, OH: Univ. Akron Press
94. Tarrow S. 1994. *Power in Movement: Social Movements, Collective Action and Politics*. Cambridge, MA: Cambridge Univ. Press
95. Teller ME. 1988. *The Tuberculosis Movement: A Public Health Campaign in the Progressive Era*. Westport, CT: Greenwood
96. Temkin E. 1999. Driving through: postpartum care during World War II. *Am. J. Public Health* 89:587–95
97. Tracy SW. 2005. *Alcoholism in America: From Reconstruction to Prohibition*. Baltimore, MD: Johns Hopkins Univ. Press
98. Tracy SW, Acker CJ, eds. 2005. *Altering American Consciousness: The History of Alcohol and Drug Use in the United States, 1800–2000*. Cambridge: Univ. Mass. Press
99. Waitzkin H. 1982. *The Second Sickness: Contradictions of Capitalist Health Care*. New York: Free Press
100. Warren C. 2000. *Brush with Death: A Social History of Lead Poisoning*. Baltimore, MD: Johns Hopkins Univ. Press
101. Watson S. 1993. An alliance at risk: the disability movement and health care reform. *Am. Prospect*. 4(12):60–67
102. Welch PD. 1996. *History of American Physical Education and Sport*. Springfield, IL: Charles C. Thomas
103. Whorton JC. 1974. *Before Silent Spring: Pesticides and Public Health in Pre-DDT America*. Princeton, NJ: Princeton Univ. Press
104. Whorton JC. 1982. *Crusaders for Fitness: The History of American Health Reformers*. Princeton, NJ: Princeton Univ. Press
105. Williams MT. 1991. *Washing "The Great Unwashed": Public Baths in Urban America, 1840–1920*. Columbus: Ohio State Univ. Press



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