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Agency for Toxic Substances and Disease Registry Child Care Safe Siting Initiative

Editor's Note: As part of our continuing effort to highlight innovative approaches to improving the health and environment of communities, the *Journal* is pleased to publish a bimonthly column from the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR is a federal public health agency of the U.S. Department of Health and Human Services (HHS) and shares a common office of the Director with the National Center for Environmental Health (NCEH) at the Centers for Disease Control and Prevention (CDC). ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances.

The purpose of this column is to inform readers of ATSDR's activities and initiatives to better understand the relationship between exposure to hazardous substances in the environment and their impact on human health and how to protect public health. We believe that the column will provide a valuable resource to our readership by helping to make known the considerable resources and expertise that ATSDR has available to assist communities, states, and others to assure good environmental health practice for all is served.

The conclusions of this column are those of the author(s) and do not necessarily represent the views of ATSDR, CDC, or HHS.

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Introduction

During a routine inspection, the New Jersey Department of Environment discovered a child care center operating for more than a year in a former mercury thermometer factory. The thermometer factory had shut down operations in 1994. (Schnapf Law, LLC, 2014). In 2004, Kiddie Kollege Daycare & Preschool, Inc. leased the building space and began operating in accordance with New

Jersey daycare licensing requirements (Kelley, 2006). Upon inspection of the child care center, testing confirmed that mercury vapors in the air were above health guideline levels (Agency for Toxic Substances and Disease Registry, 2007). Lawsuits followed the incident and the children of Kiddie Kollege are now under long-term medical monitoring for potential health effects (Romalino, 2013). The incident at Kiddie Kollege brought to atten-

tion an emerging issue. Since the early 2000s, the Agency for Toxic Substances and Disease Registry (ATSDR) has responded to numerous child care and early learning facilities operating on or adjacent to contaminated sites.

Background

Approximately 6.7 million children under the age of five years are cared for on a regular basis outside the home by nonrelatives (U.S. Census Bureau, 2013). Depending on each state's legislation, child care and early education centers can operate in a wide range of environments that include strip malls, office buildings, religious buildings, and private residences. Children also spend up to 50 hours a week in these facilities (U.S. Environmental Protection Agency, 2013).

Currently, no federal child care licensing regulations exist, and therefore every state has their own requirements for licensing child care centers. Most states have requirements to inspect for specific environmental contaminants such as lead and asbestos (Environmental Law Institute, 2015). These regulations currently do not include requirements to research site history, conduct an environmental audit, or perform any other type of environmental assessment. New York and New Jersey are the only states that have regulations containing specific language requiring the safe siting of child care facilities (Environmental Law Institute, 2015). Connecticut's Screening Assessment for Environmental Risk (SAFER) program and Pennsylvania's GIS mapping program of hazardous waste sites have pioneered the way for other states to address this issue with a nonregulatory approach (Office of Child Development & Early Learning, 2014; Somers, Harvey, & Rusnak, 2011).

Populations at Risk

Physiologically and behaviorally, children are more at risk to the adverse health effects from chemical exposure. During childhood, the functions of organ systems are easily disrupted and cannot be readily repaired from damage caused by such harmful substances (Landrigan, Suk, & Amler, 1999). Children are not just small adults; their intake of air, food, and water is greater in proportion to their size (Hudson, Miller, & Seikel, 2014). In addition, behaviors such as mouthing objects and playing on the ground put children at higher risk of being exposed to contaminants that accumulate in dust and soil, such as lead.

Child care workers who staff these facilities are another important vulnerable population to consider. According to the U.S. Department of Labor, about 95% of child care workers are women (Bureau of Labor Statistics, 2011). If exposed to harmful environmental contaminants, women of childbearing age can suffer both harm to their reproductive system before conception and to fetal development.

Child Care Safe Siting Initiative

ATSDR created the Child Care Safe Siting Initiative (CSSI) to best protect children's health by ensuring that child care and early learning facilities are located where chemical and physical hazards have been considered, addressed, and mitigated. The initiative aims to develop a manual for safe-siting of child care and early learning facilities, bring about the inclusion of safe-siting consideration processes at the state level, implement these considerations in federally-supported programs, and support the implementation of safe-siting considerations by accreditation organization and large-scale operators on a voluntary basis.

Safe-siting is defined as a thoughtful analysis of four key site elements: 1) former uses of the site that may have left harmful substances, 2) the migration of harmful substances onto the site from nearby properties or activities, 3) the presence of naturally-occurring harmful substances on site, and 4) access to safe drinking water. Through this initiative, ATSDR hopes to see a measurable increase of children being protected by safe-siting policies or programs across the U.S.

The CSSI Guidance Manual

The CSSI guidance manual is the cornerstone of ATSDR's CSSI. The manual first

describes why children and staff are vulnerable to the effects of improper siting, potential environmental hazards that put children at risk, and what can be done to identify and remediate those hazards. In addition, the manual also explains the potential consequences of former site use, migration of these harmful substances, and potential hazards from adjacent sites.

The manual also showcases different approaches to developing safe-siting programs, both regulatory and nonregulatory. Included is a conceptual model for building an interagency program at the state level to implement safe-siting with additional tools and resources that can be used throughout the implementation process.

The guidance manual is designed primarily for public health professionals but many others such as child care licensing agencies, public health departments, certification and accreditation organizations, child care providers, state policy makers, local planners, concerned parents, the general public, advocates, and other decision makers may find this manual useful.

The goal is not only to increase awareness but also to outline steps for actions to help protect children.

Outreach and Community Engagement

ATSDR has consulted many stakeholders from various disciplines for input into the manual. Stakeholders include academic and medical professionals, state and local health departments, other federal agencies such as the U.S. Environmental Protection Agency, and other organizations including the Children's Environmental Health Network and the Environmental Law Institute. In November 2015, with assistance from the American Public Health Association, a stakeholder meeting was held to receive feedback on the developing manual. The CSSI guidance manual and Web site will be ready for use by next year.

Additional Resources

ATSDR is available to provide technical assistance and expertise to state, local, and tribal agencies or departments in relation to child care siting issues or to evaluate exposures at child care facilities. ATSDR's regional offices located around the country, as well as its headquarters in Atlanta, are ready to assist. 🐼

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Did You Know?

Scientists at the Centers for Disease Control and Prevention have concluded that the Zika virus is a cause of microcephaly and other severe fetal brain defects in a report recently published in the *New England Journal of Medicine* (www.nejm.org/doi/full/10.1056/NEJMSr1604338). We recognize the important role environmental health plays in reducing mosquito-borne diseases and hosted three webinars on Zika this spring—Making it Stick: Risk Communication in Times of Zika; Local Health Departments: Preparing for and Preventing Zika; and Preventing Zika in the U.S.: What Environmental Health and Pest Management Professionals Need to Know. Check out NEHA's Zika Web site, www.neha.org/zika, for links to view or download these presentations.

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