

Loyola University Chicago

Center for the Human Rights of Children

Centers

4-1-2020

Addressing Environmental Toxins that Affect Children Through A Children's rights Framework: Tools to help you succeed

Jenifer Cartland Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/chrc

Part of the Civil Rights and Discrimination Commons, Criminal Law Commons, Human Rights Law Commons, Social Welfare Law Commons, and the Social Work Commons

Recommended Citation

Cartland, Jenifer, "Addressing Environmental Toxins that Affect Children Through A Children's rights Framework: Tools to help you succeed" (2020). *Center for the Human Rights of Children*. 22. https://ecommons.luc.edu/chrc/22

This Report is brought to you for free and open access by the Centers at Loyola eCommons. It has been accepted for inclusion in Center for the Human Rights of Children by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License. © 2020 Center for the Human Rights of Children, Loyola University Chicago

ADDRESSING ENVIRONMENTAL TOXINS THAT AFFECT CHILDREN THROUGH A CHILDREN'S RIGHTS FRAMEWORK:

Tools to help you succeed

April, 2020 Jenifer Cartland, PhD

A publication of the Center for the Human Rights of Children, Loyola University Chicago School of Law www.LUC.edu/chrc



Preparing people to lead extraordinary lives

THE CENTER FOR THE HUMAN RIGHTS OF CHILDREN AT LOYOLA UNIVERSITY CHICAGO, SCHOOL OF LAW

Children suffer human rights abuses disproportionately due to their age and developmental capacity.Recognizing that children require special protections due to their vulnerabilities, the Center for the Human Rights of Children (CHRC), a University Center of Excellence, was established in 2007 to pursue an agenda of interdisciplinary research, outreach and education, and advocacy to address critical and complex issues affecting children and youth, both locally and globally. The CHRC applies a humanrights approach to the problems affecting children, reaffirming the recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family, including children, is the foundation of freedom, justice and peace

in the world. Moreover, it does so with respect for the rights and responsibilities of parents, teachers, and other caregivers entrusted with raising children.

MISSION

The mission of Loyola's Center for the Human Rights of Children is to advance and protect the rights of children.

GUIDING PRINCIPLES

The Center seeks guidance and inspiration from the tradition of Jesuit and Catholic teachings on social justice and the UN Convention on the Rights of the Child. www.luc.edu/chrc

Contact:

Katherine Kaufka Walts, JD Director Center for the Human Rights of Children Loyola University Chicago School of Law kkaufkwalts@luc.edu www.luc.edu/law/chrc

Design by: Isabelle Pantazis | hello belle studio www.hellobellestudio.com

INTRODUCTION

This toolkit was developed as part of Loyola University Chicago's Advancing Healthy Homes and Healthy Communities Initiative (HHHCI). This initiative establishes an interdisciplinary university-community-public-private partnership to tackle the problem of environmental toxins in homes and communities through a range of activities. This approach integrates a unique set of strategies and tactics, including applied research, public education, organizing, coalition building, legislative and policy advocacy, and policy implementation. HHHCI uses an integrative research and advocacy model to address the public health and housing problems associated with environmental toxins. This approach integrates a unique set of strategies and tactics, including applied research, public education, organizing, coalition building, legislative and policy advocacy, and policy implementation. For more information, see www.luc.edu/healthyhomes.

Several events occurred over the last few years that have inspired the Center for the Human Rights of Children to analyze the effects of environmental toxins on children through a children's rights framework:

• In 2014, the city of Flint, Michigan, U.S., experienced a public health crisis when lead from aging pipes leached into public the water supply, exposing over 100,000 residents to harmful lead levels. Dr. Mona Hanna-Attisha, a local pediatrician, organized efforts to publicize and address the water crisis, showing that her patients were experiencing elevated lead levels and harm because of the leaching pipes. Government officials initially denied any problems. The lack of prompt governmental response in Flint, Michigan, as well as hundreds of other municipalities across the United States to lead poisoning in water supplies demonstrated a national crisis that has profound effects on children's health and well-being.

• In 2015, youth in the United States filed a constitutional climate lawsuit, Juliana v. U.S., against the U.S. government in the U.S. Their complaint asserts that, through the government's affirmative actions that cause climate change, it has violated the youngest generation's constitutional rights to life, liberty, and property, as well as failed to protect essential public trust resources.

• In 2016, twelve year-old Takota Iron Eyes created a video calling for help in the Standing Rock Sioux Nation's battle against the proposed route of the Dakota Access oil pipeline. The video helped draw thousands of national and international visitors to Standing Rock, North Dakota to fight the pipeline in a protest that lasted nearly a year. This youth-led campaign continues its work to create a more sustainable future and protect indigenous rights in the US.

 The global activism of teenager, Greta Thunberg (Sweden), organizing school strikes and protest marches in 2018, called international attention to the global climate crisis. Greta has mobilized countless youth and criticized world leaders for debating scientific facts and inaction in the face of global warming that will disproportionately affect the world's children. Greta's activism is an model of children's rights in action – children having a right to participate, to protest, to have a voice, and be active in decision-making of policy makers and adults that affect children, their health, and their future. At the launch of the 74th Session of the UN General Assembly in 2019, Greta and 15 young people from 12 different countries filed a landmark legal complaint against five countries under the UN Convention on the Rights

of the Child. The CRC ensures the inalienable rights of children around the world including the right to life, health, and peace. This new climate case is the first of its kind to be filed on behalf of a group of children to protect the rights of children around the globe.

• In 2019, the UN Convention on the Rights of the Child (CRC) celebrated its 30th anniversary. The Convention on the Rights of the Child is the most universally adopted instrument in the world. It recognizes that children have political, social, economic, and civil rights. Building on the accomplishments of the Advancing Healthy Homes and Healthy Communities Initiative to date, the Center for the Human Rights of Children seeks to provide a children's rights framework to address exposure to environmental toxins, and prevent harm to children from occurring in the first place.

In celebration of the CRC's 30th anniversary and in honor the work of activists and youth advocating for their rights, we have developed this toolkit to help address environmental toxins through a children's rights framework. We hope this toolkit can be useful in advancing and protecting the mandate of the CRC by assisting community members and stakeholders in creating a healthy, safe, environment for all children.

ACKNOWLEDGEMENTS

About the author: Dr. Jenifer Cartland, PhD is the Research Associate Professor, Pediatrics, Feinberg School of Medicine, Northwestern University. Dr. Cartland is a public policy analyst with twenty years of experience working on child and adolescent health and welfare issues. Her areas of expertise include health care financing, community-based interventions, program evaluation, and child and adolescent injury. She is a consultant of the Center for the Human Rights of Children, Loyola University Chicago, School of Law. Dr. Cartland received her PhD from Loyola University Chicago, Department of Political Science in 2001.

There were several individuals who contributed to the initial research, concept, and review of the project. The Center for the Human Right of Children would like to thank Adam Avrushin, Kiley Callahan, Lincoln Hill, Dorothy (McCleod) Loren, Patrick Coatar-Peter, Katherine Kaufka Walts, Anita Weinberg, and other members of the Advancing Healthy Homes and Healthy Communities Initiative for their time and expertise.

© 2020 Center for the Human Rights of Children, Loyola University Chicago.

No part of this publication may be reproduced or transmitted in any form by any means, electronic or print, including photocopy, or any information storage retrieval system, without the permission of Loyola University Chicago.

Suggested Citation: Cartland, Jennifer. 2020. Addressing Environmental Toxins That Affect Children Through a Children's Rights Framework: Tools to Help You Succeed. CHRC Report, March. Chicago: Loyola University Chicago, CHRC.

For more information about the Center for the Human Rights of Children, see www.luc.edu/chrc or contact us at chrc@luc.edu.

TABLE OF CONTENTS

BACKGROUND	6
1. WHAT ARE ENVIRONMENTAL TOXINS AND WHAT IS THEIR IMPACT?	7
2. CHILDREN ARE THE MOST VULNERABLE GROUP	8
3. CHILDREN HAVE UNIQUE RIGHTS	9
4. WHAT IS THE CHILDREN'S RIGHTS APPROACH?	10
5. NO QUICK AND EASY SOLUTION	12
6. HELP IN DEVELOPING YOUR ACTION PLAN FROM THE FIELD OF PUBLIC HEALTH	14
7. THE CHILDREN'S RIGHTS FRAMEWORK IN PRACTICE	17
8. PULLING THE PIECES TOGETHER FOR YOUR COMMUNITY	26
9. WHAT DOES SUCCESS LOOK LIKE?	29
REFERENCES	31

BACKGROUND

We know there is an intimate association between the physical world in which children live and the quality of their lives. Their housing, the water that they drink, the air that they breathe, and the guality of their schools and neighborhoods each have an impact on children's health, wellbeing and long-term developmental outcomes. Environmental pollutants and their impacts affect millions of children each year (Grigg, 2004). The costs to the individual of these toxins can be school absenteeism, learning difficulties and academic failures, lack of employment, lifelong health problems, socialization problems, and criminal records (Canfield, Gendle, & Cory-Slechta, 2004; Center for the Human Rights of Children, 2014; Grigg, 2004). Long-term outcomes point to the potential intergenerational impact of toxins that affect childhood growth and development today (Aizer & Currie, 2014).

Currently, the literature on the impact of environmental toxins is limited to primarily fields of epidemiology, medicine, and public health. There is a critical need to raise awareness of the linkages between environmental factors and the well-being of children through a children's rights framework.

The goal of this handbook is to develop a framework for addressing the negative impact of environmental toxins on children using a children's rights approach. The advantage of such an approach is that it links local, seemingly unique challenges to universally accepted norms and thereby facilitates a more effective set of solutions and remedies. The specific objective of this handbook is to 1) develop outreach and education materials for stakeholders to help them clearly define the problems, 2) assess local capacity to address them, and 3) develop an advocacy plan to successfully draw attention to and alleviate environmental toxins. We believe there is a broad range of stakeholders that may benefit from materials taking this approach, including public and private service providers, governmental agencies, community organizations, and advocacy organizations.

The handbook will employ examples throughout that apply the children's rights approach to addressing lead poisoning, a very common and well-documented environmental toxin in the United States. The leading cause of childhood lead exposure is lead based paint, commonly found in window sills of homes and apartments built before 1978. (Weitzman, M., Baten, A., Rosenthal, D. G., Hoshino, R., Tohn, E., & Jacobs, D. E,

Their housing, the water
that they drink, the air
that they breathe, and
the quality of their
schools and
neighborhoods each
have an impact on
children's health,
wellbeing and long-term
developmental
outcomes.

2013). Other causes are lead in drinking water, including school drinking fountains. Using case studies and examples, the handbook seeks to demonstrate how the children's rights approach provides an effective and robust advocacy method at every level of government. But it is important to keep

in mind that environmental toxins take many forms and may require a wide range of actions to mitigate them. These examples are just a starting point.

There are many indoor and outdoor environmental toxins and hazards that adversely impact children. Indoor environmental hazards, including dust, pests, mold, lead, and dangerous gases, typically pose a greater risks to children's and families' health than outdoor exposures, because of the concentrated levels. For the purpose of this handbook, lead poisoning is used as the primary case study. However, any type of environmental toxin can be substituted in the activities highlighted in the handbook.

WHAT ARE ENVIRONMENTAL TOXINS AND WHAT IS THEIR IMPACT?

Since the 1950's, over 80,000 new synthetic chemicals have been developed, and the US Environmental Protection have identified 3,000 that are manufactured in highly produced volume (HPV), exceeding a million tons in production each year (US Environmental Protection Agency, 1998). These include pesticides, chemotherapeutic agents, synthetic hormones, antibiotics, among others, and are disbursed into the air, water, and food, and used in homes and communities throughout the world. The Center for Disease Control and Prevention and in-home conditions and contaminants cause and exacerbate illnesses and allergic symptoms. Indoor environmental toxins can range from mold and radiation, to pests and lead. And these toxins can trigger life-long learning disabilities, cause injury, exacerbate asthma and allergies, spread communicable diseases, and more. Focusing on health home environments is equally important to focusing

on outdoor environments.

Together, outdoor and indoor environmental toxins

(CDC) has found that 200 HPV chemicals have been detected in the blood and urine of almost all Americans (Center for Disease Control and Prevention, 2011), as well as in the milk of nursing mothers (Woodruff, Zota, & Schwartz, 2011). While the health impact of some of these toxins is well known (such as lead), the impact of others is yet to be learned (IOM, 2014).

Environmental toxins take many different forms and are prevalent in many different places. Notable is their prevalence in contaminated soil and water, indoor and outdoor air pollution, inadequate sanitation, and toxic substances found in food, toys, jewelry, and pottery. Furthermore, indoor

BOX 1. ADVANCING HEALTH HOMES AND COMMUNITIES INITIATIVE

In response to the risks that these physical and social toxins pose to children and families' health, the Center for the Human Rights of Children, Institute for Environmental Sustainability, Center for Urban Research and Learning, Loyola University Medical Center, and Loyola Law School's Civitas ChildLaw Center ("The Centers") at Loyola University Chicago developed the "Advancing Healthy Homes/ Healthy Communities – Tackling Environmental Disparities ("Healthy Homes/Healthy Communities") initiative. The mission of the project is to develop Loyola University's capacity as a leading educational institution with a commitment to building a holistic approach in creating healthy homes and healthy communities free of environmental and social toxins. For more information, see www.luc.edu/healthyhomes

cost tens of billions of dollars in lost productivity, increased educational needs, and increased healthcare costs (IOM, 2014).

The American Academy of Pediatrics Committee on Environmental Health estimates that in 2002, one hundred and forty-six million Americans were living in communities that failed to meet the standard for one of the six criteria air pollutants (Committee on Environmental Health, 2004). While the personal and social cost of environmental toxins weighs on the entire community, the burden falls disproportionately on the shoulders of low-income communities of color (Pulido, 2016).





CHILDREN ARE THE MOST VULNERABLE GROUP

Although exposure to toxic chemicals is ubiquitous, certain groups either experience much more exposure (see Box 2) or are much more vulnerable to any level of exposure. Physicians for Social Responsibility (http://www.psr.org/environment-and-health/confronting-toxics/vulnerable-populations.html) identifies four groups that are more vulnerable for either of these reasons. Children in the United States are represented in three of these groups, though children who work (in rural communities in the US, for example) may be represented in all four.

BOX 2. GROUPS ESPECIALLY VULNERABLE TO ENVIRONMENTAL TOXINS

Pregnant women and their developing fetuses: Women who are pregnant and who are exposed to certain environmental toxins are at risk for having a poor pregnancy outcome (ACOG, 2016) and their fetuses are at risk of miscarriage, preterm birth or congenital conditions that dominate their child's life and development.

Children: Children's bodies cannot process and remove toxins as efficiently as adults. This is particularly true in the first three years of life when their central nervous systems are experiencing rapid and complex development (Lanphear, Vorhees, Bellinger, 2005). Children are not just 'small adults,' their body chemistry evolves through their development and that makes them more vulnerable to the same exposures adults might experience. Furthermore, children interact with the physical environment differently than adults. Indeed, there are certain environments and toxins where children have more exposure than adults. They are closer to the ground, explore many parts of their world with their mouth when they are small, and interact with their environment in a much more physical way than adults (e.g., through sports, playgrounds, sandboxes, etc.). It is easy to imagine how children have more exposure and are particularly vulnerable to environmental toxins.

Members of 'hot-spot' communities: Whole communities are at heightened risk of exposure if the community is located physically near factories and chemical-discharging entities, or even industrial areas that are no longer in use. Lead was removed from car fuel in the US in 1975 (Clean Air Act Amendments of 1970), yet homes near highways in Chicago still contain toxic levels of lead forty years later (US Environmental Protection Agency, 2016). Members of these communities tend to have low incomes or are communities of color, and are thus already disadvantaged when it comes to resources to address the environmental toxins.

Workers: Workers in certain industries have heightened exposure to harmful substances and may suffer life-long poor health as a result. Exposure ranges from toxic cleaning chemicals to medical waste, to industrial toxins to agricultural chemicals. This also includes children working in these environments. In the United States, children who live or work on farms may be at heightened risk of exposure to agricultural toxins.

OB CHILDREN HAVE UNIQUE RIGHTS

The UN Convention on the Rights of the Child (1989) is the most universally adopted human rights instrument in the world. Today, the United States is the sole nation state that has not ratified the Convention on the Rights of the Child (CRC). The CRC provides that children (individuals under age 18) have social, economic, political, and civil rights as human beings. Children's rights take into account their status as dependents as well as their developmental vulnerability. The developmental nature of childhood may magnify risks that adults also face, and the correct course of action to protect a child is dependent on where they are in their developmental journey. For instance, a teenager may be best protected by allowing him or her to be independent of his or her parent and enter adulthood early (as an emancipated minor). A decision to allow an infant to be independent of his or her parent would need to involve foster or adoptive parents.

The Convention recognizes a range of rights that children possess, including association with both parents, human identity, and provision of basic needs. These include the need for food, shelter, education, and health care. It is largely understood that the food, shelter and physical spaces children use should be safe



and promote optimal and that they promote optimal developmental outcomes. Thus, the Convention on the Rights of the Child, and subsequent treaties and legal activities based on them, strongly support the notion that children have the right to a physical environment that is free of toxins. Such an environment is a key element in assuring their safe and healthy development.

Today, the United States is the sole nation state that has not ratified the Convention on the Rights of the Child

9 | www.luc.edu/chrc

WHAT IS THE CHILDREN'S RIGHTS APPROACH?

The children's rights approach to addressing environmental toxin exposures is based on the robust work defending human rights conducted by many organizations over decades. The approach guides stakeholders, community organizers and concerned

individuals through the sometimes confusing process of making lasting change. It is particularly effective because it links community action to the nearly universally agreed upon rights that protect children's health, wellbeing and development.

Adopting the human rights approach set out by Advocates for Human Rights (http://www. It is an excellent practice to evaluate your effectiveness after each advocacy effort and to return to consider whether your stakeholder map is correct and whether you should alter your action plan as a result.

theadvocatesforhumanrights.org/10_steps_to_ becoming_a_human_rights_advocate), we specify seven steps to the children's rights framework. They are defined here and will be explored in more depth in section 7.

BOX 3. THE CHILDREN'S RIGHTS APPROACH

Step 1: Set the children's rights goal. Placing the goal of your work into the children's rights context links it to well-accepted values that appeal to a very wide array of stakeholders.

Step 2: Identify marginalized groups. Identifying groups that are most affected or that might not have the efficacy to represent themselves helps focus your work to where it will have the biggest impact.

Step 3: Analyze the root causes of the children's rights violation. The causes of environmental toxins can seem infinite. Tracing the root causes of the particular issue you are concerned with will help you target your efforts on a long-term solution most effectively.

Step 4: Map stakeholders. Every environmental issue is surrounded by a very wide array of stakeholders, many of whom will be natural partners and some of whom will seek to block your actions. Mapping these individuals and organizations out will shape your game plan.

Step 5: Evaluate capacity gaps. It would be ideal for there to be no resource constraints when it comes to assuring a safe environment for children. However, every community has limits to what it can do. Understanding these limits will help you build a solution that is doable.

Step 6: Create an action plan. Once you have done the hard work of surveying the problem, the stakeholders and the capacity of your community, you are ready to put a plan together that will guide your efforts. Having a plan helps you deal with unexpected setbacks and can keep your supporters focused during what can sometimes be a time-consuming and unpredictable advocacy effort.

Step 7: Evaluate your impact. How will you know you are successful? When change happens, can you take credit for it? It is a good idea to think a little about how you will be able to answer these questions before you get started.

FIGURE 1. APPLYING THE CHILDREN'S RIGHTS APPROACH TO LEAD-FREE DRINKING WATER IN SCHOOLS



Although it is presented here in a step-by-step approach (Figure 1), in real life it is often not a clean, sequential process. It is often the case that the advocacy environment is fast-moving and often seeks partial solutions. Some of those partial solutions will advance your goal, some will not. It is an excellent practice to evaluate your effectiveness after each advocacy effort and to return to consider whether your stakeholder map is correct and whether you should alter your action plan as a result. This practice assures that you are adjusting your strategy as you learn more and as the advocacy environment changes.

Knowing these steps and understanding the importance of each one in creating lasting change will go a long way to making your efforts more effective.

05. NO QUICK AND EASY SOLUTION

Preventing or alleviating environmental toxins is a challenge because the variety of their sources are great and our knowledge of environmental toxins and how they affect us is still evolving (Institute of Medicine, Identifying and Reducing Environmental Health Risks of Chemicals in Our Society, 2014). This limits our ability to collect data about toxins and our exposure to them, and it limits our ability to develop a clear plan of action to reduce exposure. effective advocacy strategy requires research, local assessment and evaluation. Table 1 provides some simple examples of what individuals and communities can do to reduce the exposure to some environmental toxins that affect children.

Some of these options may be inaccessible to some families. For example, bottled water may be too expensive or pesticide free food may be unavailable. In these cases, an emphasis on the community level interventions should be further explored.

Thus, understanding the risks and outlining an

TABLE 1. EXAMPLES OF EXPOSURE MECHANISMS, RISKS, AND PREVENTIVE ACTIONS

Exposure mechanism	Example toxin exposure risk	Examples of what individuals and families can do	Examples of what local communities can do
Air	Fossil fuel emissions	Install energy efficient appliances	Support active transportation
Water	Toxin flush after a natural disaster	Use bottled water for drinking and cooking	Monitor water supply for known and emerging known toxins; have remediation plan in place
Food	Pesticides from agriculture	Purchase pesticide-free produce	Regulate exposure to pesticides in school lunches
Soil	Lead from fossil fuel emissions	Avoid digging into the soil (e.g., build raised beds for gardens)	Support community gardens with safe soil for residents who do not have safe soil at their homes
Toys and play objects	Chemicals from manufacturing	Avoid hand-me-down toys and products manufactured prior to 2009	Monitor and assess learning tools and sports equipment in daycares and schools
Built environment	Chemicals used in building and renovations	Use green home renovation materials and practices	Implement green building regulations and codes

BOX 3. THE FLINT WATER CRISIS: AN INTRODUCTION

In April, 2014, officials in the town of Flint, Michigan, completed a plan to switch the water supply for their town to the Flint River. Anti-corrosion inhibitors were not added to the water, which resulted in pipes carrying water to homes to corrode and release lead into the water. By August, problems began to arise with the water (several boiling advisories were issued), and by February, 2015, elevated lead levels began being reported. Dr. Mona Hanna-Attisha, a local pediatrician, organized efforts to publicize and address the water crisis, showing that her patients were experiencing elevated lead levels and harm because of the leaching pipes.

The public health approach is similar to a human rights and children's rights approach. Both emphasize not only intervention but prevention of harm, and address systemic issues of inequality and accountability of government and public systems. Although the water source was switched back to Lake Huron in October, 2015, it is estimated that between 6000 and 12,000 children experienced elevated lead levels as a result of the use of Flint River water that was not properly treated, and work continues to replace corroded pipes so that water can safely be brought into 18,000 Flint homes.

Many issues of accountability and planning are raised by this example. We will focus on employing the children's rights approach and ask such questions as –

- What was the role of marginalized groups in enabling the Flint water crisis to occur?
- What were the motives of various stakeholders that enabled the delay in response to the crisis?
- How were the rights of children living in Flint violated?

In 1991, the CDC initially recognized that lead exposure, even in low levels, can cause cognitive impairment (Weitzman et al., 2013). Although lead paint was banned in the United States in 1978, the toxin can still be found in millions of US homes, especially those in low-income communities and communities of color (Muller, Sampson, & Winter, 2018; Cox, Dewalt, O'Haver, & Salatino, 2011; Jacobs et al., 2002). When the lead-based paint is chipped and flaked, it can be ingested from hand-tomouth contact or the inhaling of contaminated dust contributing to the majority of cases of elevated lead levels in children (Jacobs et al., 2016; Weitzman et al., 2013).





HELP IN DEVELOPING YOUR ACTION PLAN FROM THE FIELD OF PUBLIC HEALTH

Taking on environmental toxins can seem overwhelming. With so many actors and organizations involved, it can be hard to figure out where to start. Before launching into the work of developing your own action plan, an additional tool may be helpful. The field of public health has a long history of being concerned with environmental issues that affect health.

BOX 3. THE FLINT WATER CRISIS: THE PUBLIC HEALTH APPROACH

Clean and safe water is a fundamental need for every community. The public health approach breaks down the responsibilities and complexities of delivering safe water.

Primary prevention:

- Test the water in your home.
- Keep the pipes bringing water into your home in good shape.
- Follow regulations and scientific guidelines on treating water.
- Test for lead regularly and address corrosion problems as they surface.
- Establish scientifically valid regulations on drinking water for communities to follow.
- Test local water supplies regularly to assure compliance to standards.

Secondary prevention:

- If lead is high in your drinking water, alert community officials and follow steps to remediate it.
- Test local water supplies regularly to assure compliance to standards.
- Provide education and resources to families that report high levels of lead in their water.
- Use surveillance systems to identify patterns of household reports to take city-sponsored action.
- Provide emergency support to communities that have to perform large scale remediation.
- Maintain surveillance systems for blood lead levels to identify communities in need of remediation.

Tertiary prevention:

- If lead is found to be elevated in family members, seek medical care and follow the full course of treatment.
- Provide free or low cost treatment for elevated lead levels in children and adults.
- Provide grants and expertise to local governments to provide medical care for individuals with elevated blood lead levels.



Public health differs from health care in that it takes a preventive and social approach to improving health. While a health care provider may deal with his or her patient having influenza by prescribing medications, a public health expert will try to prevent the infection but advocating for public vaccination programs.

Many of our most important health improvements have stemmed from a public health approach. Chief among these are reduction of child mortality through the universal use of vaccinations, but other great examples are the requirement of using car seats for small children which reduced motor vehicle deaths of infants by 90%, HIV education and prevention which severely pulled back the HIV/AIDS epidemic, and reductions in certain cancers because of public health efforts to reduce the use of tobacco.



Like environmental toxins, infectious disease, motor vehicle injury, cancer, and HIV/AIDS are complex and multilayered. Over the decades, public health experts have developed a three-tiered approach to prevention that is easily adapted to ways to prevent and reduce exposure to environmental toxins (see Table 2). The first tier is 'primary' prevention. Public health officials see primary prevention as a type of preventive effort that affects the entire population. Examples of this would include assuring a safe water supply for a community, and educating all parents about safe sleep practices before infants are discharged from the hospital after giving birth. The point is that everyone receives the protection of the preventive effort without individuals having to seek it out themselves.

The term 'secondary' prevention involves identifying individuals, communities or places that are at higher risk than others and putting specialized and targeted prevention efforts in place for those areas. For example, soil along interstate highways in urban areas have high levels of lead. Children living in these homes have a very high risk of lead poisoning, regardless of what families do to alleviate it. Secondary prevention efforts would target homes in these areas for lead abatement. Like primary prevention, individuals in these communities would not need to seek this support out, but they would receive it because of the heightened exposure and risk they have.

The term 'tertiary' prevention is the third layer of the public health model. It assures the presence of and access to services that will reduce the impact of the exposure once it is experienced. In the case of lead poisoning, the third layer of prevention involves preventing long-

Many of our most important health improvements have stemmed from a public health approach. term and negative impact from high levels of lead exposure.

While primary prevention might always be the ideal when it comes to environmental toxins, it is rarely achieved. A robust community plan to reduce

the impact of environmental toxins on child health and development and will incorporate targeting and remediating efforts alongside primary prevention. Using this tool within the children's rights framework can be a very powerful way for advocates to identify their priorities and action steps, and to link their efforts to those of others.



TABLE 2. PREVENTING AND ALLEVIATING EXPOSURE TO ENVIRONMENTAL TOXINS

Type of intervention	What individuals and families can do	What local communities can do	What states and governments can do
Primary prevention	 Examples:: Follow instructions on product labeling Child home safety practices (i.e., regular wet-wipe cleaning of floors, windows, and toys; sand box play to avoid leaded soil; regular hand washing) 	 Examples: Identify local risks and educate community members about how to avoid exposure to them Active monitoring of places designed for children (playgrounds, daycare, schools) 	 Examples: Regulate toxin-producing organizations Enforce zoning and other laws Provide for remediation to prevent re-exposure
Secondary prevention/ exposure response	 Examples: Education on emergency response Advocate for improved monitoring and surveillance 	Examples:Education on emergency responseAdvocate for improved monitoring and surveillance	 Examples: Support research that improves early detection Support workforce development that targets high need areas
Tertiary prevention/ exposure remediation	Examples: • Lead paint removal • Window replacement	Examples:Access to health services for poisoning and toxicity	Examples:Set poison/toxicity care guidelines and standards

Adapted from World Health Organization: Guidelines on prevention of toxic exposure: Education and public awareness activities (2004).

THE CHILDREN'S RIGHTS FRAMEWORK IN PRACTICE

This section walks you through the application of the children's rights approach in more detail using a narrow environmental issue as an example (the need to update drinking water fountains in public schools to assure the water is lead-free). We will continue to highlight the Flint water crisis in call out boxes to exemplify how these steps might play out when a very large environmental crisis surfaces.

STEP 1: SET THE CHILDREN'S RIGHTS GOAL

Many community actors and individuals will have a clear goal in mind, such as 'To assure lead-free water at all school drinking fountains.' This is a worthy goal, but does not reference the affected individuals and does not anchor the goal in principles that have universal recognition. Adding those elements strengthens the goal substantially.

To set the goal in the children's rights tradition, consider what right is being violated, and whose rights are being violated. Consider as well the long term impact of having those rights violated. To get your bearings, consult children's rights documents, especially The UN Convention on the Rights of the Child (https://www. ohchr.org/en/professionalinterest/pages/crc.aspx).

Phrasing the goal in positive rather than negative language can also be helpful because positive statements are more appealing to those you will be trying to persuade. Here is an example of the transformation of the drinking fountain goal:

 As originally stated: To assure lead-free water at all school drinking fountains.

BOX 5. THE FLINT WATER CRISIS: FINDING THE ROOT CAUSES

The identification of marginalized groups affected by lead in the water occurred in stages and by a number of significant actors.

- (1) In February, 2015, an EPA inspector reported extremely high levels of lead in a single home.
- (2) In June of that year, an EPA-sponsored study identified extremely high levels of lead in several homes.
- (3) In September, the continuing EPAsponsored study reported high levels of lead in 40% of Flint homes.
- (4) Also in September, a pediatrician published a study showing elevated lead levels in Flint children after the change of water supply to the city.

As a result of this growing evidence, the Governor of the State of Michigan ordered the water supply from the Flint River to be shut off and replaced with a supply from Lake Huron in October – the first step in a long line of necessary steps to remediate the damage to the town's infrastructure and to the wellbeing of the residents.

- Children's rights goal, negatively worded: To assure all children in this community have access to safe water at school so that they are not denied their right to optimal health and development.
- Children's rights goal, positively worded: To assure all children in this community have access to safe water at school to ensure their right to optimal health and development.



FIGURE 2. ELEVATED LEAD LEVELS IN SCHOOL DRINKING FOUNTAINS: FINDING THE ROOT CAUSES

IMMEDIATE CAUSE

The *immediate cause* is that some school buildings have very old pipes that need replacing.

When you point this out to school officials, nothing happens.

LEGAL AND ECONOMIC CONTEXT

The *legal and economic context* is that the schools with the old pipes are in disadvantaged areas.

The schools in these areas spend all of their discretionary funding on violence prevention and none on their buildings.

ROOT OR STRUCTURAL CAUSE

The root or structural cause is that the school district does not have a way to fund environmentally safe schools equitably.

Advocate to set minimum standards for environmental safety that are funded from the district, city, county or state, and not from schools' own discretionary funds.

STEP 2: IDENTIFY MARGINALIZED GROUPS

Once your goal is set, identifying children who are most at risk is your next step. Most often, communities will have data that are community-wide. In the example of the school drinking fountains, there may be district-wide data, but no publicly-available data for each school. It would be hard with such limited data to pinpoint who is most affected by possible lead in the school's fountain drinking water.

It may take some research of your own to explore the extent to which the problem is especially difficult for subgroups in the community. In large cities, groups most often bearing the brunt of environmental toxins are living in low income communities or communities of color.

Many public health departments collect data on environmental toxins, and sometimes on the people affected by them (such as lead poisoning). Getting access to these data or speaking to public health workers about their knowledge about who in the community is most vulnerable can be very helpful. Public health workers are often very close to the problem and can be strong partners in addressing exposures to environmental toxins. Other people that keep a close watch on issues pertaining to children's health or who might have special knowledge would include pediatricians, school nurses, special education teachers, and other parents.

The CDC has collected nation-wide data sources in one place on its website. This may be a useful starting place: https://www.cdc.gov/nceh/data.htm.

STEP 3: ANALYZE THE ROOT CAUSES OF THE CHILDREN'S RIGHTS VIOLATION

There are three types of causes you might want to consider as you think through what actions need to be taken to prevent or alleviate exposure to environmental toxins (see Figure 2). There are immediate causes, causes embedded in the legal and economic context of your community, and root or structural causes.

- *Immediate causes* are the most obvious and they are the closest to the problem.
- Causes embedded in the legal and *economic context of your community* are not obvious, and they often affect many things, not just the problem you are trying to solve.
- *Root/structural causes* often take some digging to understand, but they are often the causes that need to be addressed before the immediate causes can be dealt with.

Sometimes the immediate cause is simple and straightforward, but still the problem does not get

fixed. When that is the case, examining the other causes can give you additional advocacy options to reach your goal. In the case of the drinking fountain issue, your cause analysis might look something like this (see Figure 2):

Digging through triggers than may not be obvious when you first examine a problem will help you develop long-lasting solutions that are able to address the problem.

STEP 4: MAP STAKEHOLDERS

Because environmental toxins affect almost everyone in a community, there are many stakeholder groups to consider. Some of these will be natural allies in your effort and will be easy to educate and recruit to support your goals. Others will not be. To get a lay of the land, it is helpful to consider these questions:

- 1. Who has a vested interest in keeping things as they are? What would it take to make them willing to consider change?
- **2.** What groups have a vested interest in change? How can they be strengthened?
- **3.** Who has the power to make the change? What is standing in their way?
- **4.** Who might be an ally? Can they help carry some of the weight in advocacy?

Sometimes, advocates can be overwhelmed with the amount of opposition to change. This is common, especially at the start. Advocates often overestimate or under-estimate the power of others to oppose change or make change happen. As you map stakeholders, it is helpful to speak with some of them and learn as much as you can about what power they actually have and what it would take to make them act or change their position.

The following table (Table 3)maps stakeholders for the school drinking fountain issue. In the table, the stakeholders are divided between rights-holders and authorities who are responsible for protecting rights.

A couple of observations about this exercise are worth noting.

1. Children are the rights-holders in this example, but they often do not have the knowledge or efficacy to advocate on their own behalf. They most often rely on their parents or caregivers for this type of advocacy, but parents may or may not defend children's rights, depending on a wide range of factors.

2. As you sort through the stakeholders and their concerns, your options for action begin to be outlined. Just because a stakeholder is not immediately an enthusiastic supporter, does not mean they cannot be persuaded to be. And even stakeholders who oppose your effort may not move to block it. It is essential to understand not only 'whose side' someone is on, but why they are taking that position and how committed they are to their position. In many cases, people will eventually do the right thing if you can make it easy for them.

3. Sometimes the individuals most concerned are not the ones being affected by a problem. In this example, some middle school students are aware of the problem, but they do not attend the schools that are affected. A good advocacy question is how to link students so that those at the affected schools will become both knowledgeable and empowered to speak out.

When you start with mapping out the stakeholder groups, a great number of issues surface. These will frame your advocacy effort. As stakeholders become engaged in an effort, they sometimes change their positions or refine their thinking. Going back to the stakeholder map and noting these changes will help your strategy remain on-point.

STEP 5: EVALUATE CAPACITY GAPS

One of the things that became apparent in the example of the stakeholder map (See Table 3, page 20) is that there are real capacity gaps in the school district. The

TABLE 3: LEAD IN SCHOOL WATER SUPPLIE: FINDING THE ROOT

Stakeholder	Supporter?	Position	Options for action
Rights holders			
Children attending school	Mixed	Primary grade students are not aware of the problem and are not able to speak for themselves. Some of the middle school students have become concerned, but they do not all attend the schools where there is a problem.	 Educate students about the need for safe water As a stop-gap, encourage students to bring water bottles to school in the schools affected. Empower the students who are supportive with tools to work with other students in schools with the problem and to navigate advocacy within schools. "Educate students about the need for safe water and their neighborhood risks for lead-based paint"
Parents of children attending school	Mixed	Some do not have the problem at their school. Others who do have the problem tell their children not to use the fountains and send them to school with bottled water. These parents feel they have fixed the problem and want their schools to spend money on other issues. A third group of parents feel strongly that the problem needs to be fixed.	 Educate parents about the need for safe water for ALL students and neighborhood risk for lead. Engage parents who are supportive in a letter-writing campaign.
Responsible aut	horities		
Principals	Yes, if we can figure out how to pay for it	Too many things on their plates. They do not believe this is a top priority.	 Find a way to fund the drinking fountain replacements with non-school money. Identify data to demonstrate to the principals that the problem is bigger than they think Consider talking to the local press. Link families at risk for lead-based paint with community resources and information.
Teachers and coaches	Yes	Worried about the impact on students.	 Find a way to fund the drinking fountain replacements with non-school money.
School board	No, but will not block us	Too many other priorities for funding. Will not stand in the way if we can do it without their help, however.	 Find a way to fund the drinking fountain replacement, and to deal with bringing in construction vendors without the school board needing to be engaged very much. Consider legal action. Consider going to City Council.
Janitor's union	No, and may block us	They want to make sure we use their workers rather than an outside vendor. They have the potential to block this action, even if we can get the school board's support.	 Engage a vendor who can work with the union. Engage a vendor who hires union workers.

school board, principals and even some parents believe that, with limited resources, money should be spent on other priorities than assuring safe water for all students.

Every community, every organization, and every individual has limited resources. The solution is to either find more resources so your problem can be solved, or to get those who control the resources to reprioritize the problems they are trying to solve so that your problem can get its share of resources.

To get a tighter sense of capacity issues, it is useful to do a capacity gap analysis. Capacity gaps may be human resources, money, motivation, or knowledge, each of which will require different tactics in your action plan. The following table (Table 4) walks through an example of a capacity gap analysis based on the stakeholder map (above).

Using the children's rights approach helps a great deal with identifying how stakeholders can reprioritize their use of resources because it links the resource request to broad principles that almost everyone agrees with. It also clarifies that capacity gaps are only partly related to money. Capacity gaps are often gaps in motivation, knowledge, empowerment, and organization.

In our example, it is the rare school principal who would be in favor of denying her students' rights to develop optimally by not providing safe drinking water. The principals really are on our side (they agree that the rights of children are the most important thing), we just need to show them that the risk to their students is real. Once they are convinced, many of them will be strong supporters because they are already strong defenders of children's rights.

STEP 6: CREATE YOUR ACTION PLAN

In the next section 'Pulling the pieces together for your community,' we will draw out the full action plan that will result from using the children's rights framework. This section will introduce you to the wide variety of tactics your plan might take advantage of.

One of the things we learned with the capacity gap analysis is that there are many kinds of gaps that a community may experience that prevent change. Each of these gaps can be addressed with different kinds of tactics. Your final action plan will likely include more than one of these tactics.

These are the main tactics you will want to consider when it comes to protecting children from environmental toxins:

(a) Capacity building and training. Young children have very little capacity to effectively organize on their own behalf, but older children and adolescents have a great deal of potential and motivation once they are aware of an injustice being done. May of the tools used with parents and teachers could be used with children and adolescents, but more time must be invested in training and empowerment, especially in a school setting where teachers and principals will also have to learn how to listen to children and adolescents differently than they are often used to.

Similarly, low income communities and communities of color have often experienced significant disenfranchisement. Capacity building and training in these communities involves significant efforts to help community members identify their rights and find their own voices to demand them.

(b) Education. Not all children and parents are aware of the environmental dangers in their communities. Other stakeholders may not be aware either. Investing in targeted education efforts will engage more stakeholders in support of safe environments.

(c) Monitoring and documentation. As stated earlier, data describing environmental toxins can be hard to come by. This is partly because we are still learning about what environmental toxins are and how they affect children. A significant capacity gap in many communities is good environmental toxin documentation. Monitoring systems can go a

TABLE 4: EVALUATE CAPACITY GAPS, LEAD TO SOLID METRICS

Stakeholder	Obligation	Motivation	Authority	Resources	Type of capacity gap
Rights holders					
Children attending school	Younger children have no obligations except to follow the rules around drinking fountain use where there are warning signs.	To do well on tests and to feel safe.	None. Students are often afraid to bring issues to the teachers and principals.	No resources, but students could raise money to replace the fountains. They could also educate students at other schools.	Knowledge, motivation, empowerment
Parents (representatives of the rights- holders)	To protect and care for their own children.	To assure their children are safe at school, though safety means different things to different parents.	No direct authority, though parents elect school board members and advocate at the school.	No resources, but students could raise money to replace the fountains. They can educate other parents and empower students to take action.	Empowerment, organization
Responsible author	rities				
Principals	To assure optimal education and a safe environment.	To have students score well on tests within budget constraints.	Yes, the principal can make the change.	Limited budget with many competing priorities.	Knowledge, money
Teachers and coaches	To identify threats to students' safety.	To educate students.	No, but teachers can negotiate budget issues with the principal.	No resources, but they could help the students raise money.	Empowerment, organization
School board	To assure optimal education and a safe environment.	To educate the long-term labor force for the community.	Yes, the school board can make the change.	Limited budget with many competing priorities.	Knowledge, money
Janitor's union	To maintain a physical environment that is safe for students.	To get paid for the work he/she does and to be secure in his/her job.	Yes, the janitor can make the change once the principal has contracted with a vendor	Human resources needed to replace the fountains.	Human resources

long way to making sure problems are identified in a timely fashion and addressed.

(d) Law and policy reform. Advocating for changes in governmental budgets and rules relating to environment can help prevent toxins from entering the environment and can assure rapid clean up when prevention is not possible.

(e) Strengthening governance structures. Sometimes government agencies or other authorities do not have the resources to meet their own goals. Supporting capacity development in the organizations that oversee environmental safety can assure their effectiveness.

(f) Accountability and enforcement. Raising awareness about how to identify the failure to follow regulations and guidelines is a key trigger to assuring that the violations will stop. Sometimes advocates must press regulators to enforce their own rules.

(g) Networking and mobilizing. Every community is different and will face different challenges. But they will also approach problems differently as well, which may give advocates new and better ideas of how to approach their own problems. Additionally, by joining forces with others, individual advocates can often be more effective.

(h) Direct services. For individuals and communities that are affected disproportionately by environmental toxins, it is necessary to advocate for the delivery of services to alleviate the toxins and to reduce the long term effects of the exposure.

Finally, the way goals are worded can make a huge difference in how effective your effort will be. Activists

often use what are called 'SMART' goals (Figure 3). Using a SMART goal assures that you will be pursuing a concrete and achievable end, and helps you be aware when you are drifting away from your goals. If you take the time to adopt SMART goals, measuring your effectiveness will also be much easier because the SMART goal process requires you to make your goals narrow, measurable and time-limited.

STEP 7: EVALUATE YOUR IMPACT

As has been mentioned already, you will want to gather information along the way that will help you be more effective. Some of this information will reshape your action plan. But once you have completed your advocacy effort, you will want to know whether you were effective and how effective you were. You will also want to consider what you should have done differently. Setting up some metrics that are easy to gather when you begin will provide these answers to you.

When you measure your efforts, you will want to put into place both 'process' and 'outcome' measures. Process measures show the work you did; outcome measure show whether that work made a change. It is a rare effort that gets the exact outcomes it seeks. When outcomes are not what you expected them to be, process metrics can often help your pinpoint why the outcome you sought did not materialize. This learning is key to being effective.

In Table 5, each of advocacy tactics mentioned in Step 6 is matched with some process and outcome measures to help you think these through. It is useful to include these evaluation tools in your action plan for the start, as often they are most useful in real time. As your plan unfolds, they will keep you aware of where your plan is going well and where it needs more support.

BOX 6. THE FLINT WATER CRISIS: SMART GOALS AND EFFECTIVE TACTICS

The identification of marginalized groups affected by lead in the water occurred in stages and by a number of significant actors.

(1) In February, 2015, an EPA inspector reported extremely high levels of lead in a single home.

(2) In June of that year, an EPA-sponsored study identified extremely high levels of lead in several homes.

(3) In September, the continuing EPA-sponsored study reported high levels of lead in 40% of Flint homes.

(4) Also in September, a pediatrician published a study showing elevated lead levels in Flint children after the change of water supply to the city.

As a result of this growing evidence, the Governor of the State of Michigan ordered the water supply from the Flint River to be shut off and replaced with a supply from Lake Huron in October – the first step in a long line of necessary steps to remediate the damage to the town's infrastructure and to the wellbeing of the residents.

FIGURE 3: SMART GOALS LEAD TO SOLID METRICS.



By the start of next school year.

Good example: We can make this change by engaging many stakeholders and taking into account counter-pressures they are under.



TABLE 5. SAMPLE EVALUATION METRICS

Tactics in your action plan	Sample process metrics	Sample outcome metrics
Capacity building and training	Number of adolescents attending planning sessions	Number of adolescents actively engaged in advocacy
Education	Number of adults exposed to public education about environmental toxins	Number of adults who are aware of environmental risks in their neighborhood
Monitoring and documentation	Number of community members trained in how to monitor environmental toxins	Ongoing monitoring and documentation
Law and policy reform	Percent of budget spent on environmental safety	Reduction in children's exposure to environmental toxins
Strengthening governance structures	Size of the budget of governance structures	Number of complaints responded to within one week
Accountability and enforcement	Number of reports of non-compliance with regulations Percent of non-compliance reports that received citations	Rate of non-compliance
Networking and mobilizing	Number of contacts with other advocates	Number of joint advocacy efforts
Direct services	Number of services delivered Number of children served	Number of children with toxic blood levels

PULLING THE PIECES TOGETHER FOR YOUR COMMUNITY

All of the hard work of following these seven steps leads you to a final action plan. This action plan does two very important things: (1) It assures that the actions you take are well thought out and will trigger the outcomes you want, and (2) it helps you stay on track. Once you begin, there will be many opportunities to be distracted, to expand your goal, to narrow it, or just to give up. The action plan helps pull you back to your agreed-upon focus and use your resources effectively. It is also helpful at times when nothing seems to be going right. By articulating specific tactics for each stakeholder group, along with metrics, it is far easier to identify what is going wrong. Almost every advocacy effort will require mid-course corrections. These are far easier to make if you can pinpoint what is going wrong quickly.

The action plan is an especially powerful tool if you have developed it in a collaborative way with your partners. Action plan development sessions can involve many challenging conversations because the process of going through the seven steps in the children's rights framework forces your partners to come to an agreement on how you will define the problem and take action. It may not seem so at first, but even likeminded people often realize they have made very different assumptions about a goal once they put it on paper and start thinking through the tactical implications. It is important to surface these disagreements with your partners so that you can attend to them. Your action plan will be stronger and more enduring as a result.

Table 6 lays out an example action plan. You can see that it connects all of the work from the example

of finding lead in the drinking water from school fountains–from identifying rights-holders, to choosing aligned metrics. The purpose of the action plan is to link all of these elements of the problem you are trying to solve in a logical way. Indeed, Table 6 can also be called a "Logic Model, a tool that planners, advocates and interventionists often use to make sure their tactics will advance their goals and to provide measurements that track their progress so they can make mid-course corrections.

While the example we have focused on may seem complex enough. The example of the water crisis in Flint, Michigan, is far more complex. Not just one school district is involved, but an entire city. And not just one supply of water if affected, but all of them. A problem like the one in Flint may require a multilayered approach, like the public health approach outlined in Section 6.

What that means specifically is that you may want to have a master action plan that ties all of the tiers of prevention together. Table 7 is an example of what this might look like for Flint (borrowing the public health framework articulated in Section 5). Each of the strate-

What that means specifically is that you may want to have a master action plan that ties all of the tiers of prevention together. gies listed in the table would need its own action plan (i.e., its own seven-step children's rights planning process).

What is important to take away is not how complex the problem is, but rather how the children's rights approach can be effective

TABLE 6. ACTION PLAN IN PRACTICE (EXAMPLE)

Children's rights goal: To assure all children in this community have access to safe water at school to ensure their right to optimal health and development.

Strategy	Stakeholders	Capacity gaps	Tactics	Process metrics	Outcome metrics
Rights holders					
Raise awareness among those whose rights are unrealized, among other students who can mobilize with them, and among their parents	Children attending school	Knowledge, motivation, empowerment	Capacity building	Number of students who come to family-focused capacity-building session	Number of student who write letters to the principal
	Parents (representatives of the rights-holders)	Empowerment, organization	Capacity building	Number of parents who attend family-focused capacity-building sessions	Number of parents attending budget sessions of school board
Responsible auth	Responsible authorities				
Reprioritize funding at the district level so that there is equitable access to safe water for all students	Principals	Knowledge, money	Monitoring and documenting	Number of drinking fountains tested for lead	Number of drinking fountains no longer contaminated with lead
	Teachers and coaches	Empowerment, organization	Networking and mobilizing	Number of teachers and coaches who attend planning meetings	Number of teachers and coaches who support student advocacy activities.
	School board	Knowledge, money	Strengthening governance structures	Amount of time from identification of school's exposure to replacement of water fountain	Number of schools with drinking fountains no longer contaminated with lead
	Janitor's union	Human resources	Networking and mobilizing	Number of janitors who are willing to support replacement	Successful contracts to replace drinking fountains

with even very large, complex issues. More so, the tools introduced in this document can help tease out the most important triggers to address these problems, and address them collaboratively and effectively.

Stepping back to apply this method to the Flint lead crisis also highlights how all of our advocacy efforts around environmental toxins are interrelated. Even addressing the safety of drinking water at a single school can draw in the involvement of state and federal officials. That can mean that addressing environmental toxins on our children's environment is very complicated, but also means that there are more resources and stakeholders to engage that can perhaps come to your aid. Communities, schools, cities all exist in a larger advocacy context that can support local change, or limit it.

TABLE 7. ADDRESSING THE LEAD CRISIS IN FLINT, MICHIGAN (EXAMPLE LINKING CHILDREN'S RIGHTS APPROACH AND PUBLIC HEALTH APPROACH)

Type of intervention	What individuals and families can do	What local communities can do	What states and governments can do
Primary prevention	Replace household plumbing that has been compromised	Replace city water supply pipes that have been compromised	Provide funding to local government for repairs of infrastructure
Secondary prevention/ exposure response	Use bottled water for drinking, cooking and bathing.	Provide free lead screening to every resident	Provide funding and additional human resources for universal lead screening
Tertiary prevention/ exposure remediation	Follow medication guidelines; track progress through blood tests	Provide free health care services to lead-poisoned residents	Provide funding and additional health care workers so that lead- poisoned residents can get services



WHAT DOES SUCCESS LOOK LIKE?

As mentioned at the outset and throughout this document, advocating to mitigate the impact of environmental toxins can take on many forms, result in unexpected turns in the process, and be difficult to track. That is why it is so important to set SMART goals, to measure your progress, and to periodically check to see if the tactics you have chosen are helping you make progress.

Many advocates also include in their efforts at least one goal focused on ongoing monitoring. Sometimes, monitoring will take the form of a completely new

BOX 7. THE FLINT WATER CRISIS: SUCCESS AND DELAYS

Ongoing monitoring is taking many forms in the case of Flint. And the results of the monitoring have identified new areas that require continuing advocacy.

For example:

Medical treatment for the children affected. Issues and resources continue to be identified to provide the necessary medical care these children will need across the span of their development.

Rebuilding the water infrastructure has begun, but groups monitoring this issue have raised concerns that it is moving too slowly.

Financial assistance has been made available to help families with home plumbing repairs, but this work is moving more slowly than expected.

public health surveillance system, which is very expensive and time-consuming. For instance, the current public health surveillance system to track blood lead levels in children was established in the 1970s when efforts to decrease lead exposure were being launched. Because many environmental toxins and their effects are still unknown, including a goal for monitoring progress on an ongoing basis for these newer toxins, as for lead, may be warranted. This is especially the case if there is no system in place to monitor exposure. A system as robust as the one for lead may not be needed, but regulations requiring organizations to report toxic substance levels can be less onerous and provide basic data needed to identify problems surfacing.

SMART goals also help you to breakdown a very large, sweeping goal into smaller goals that are both measurable and that are more concrete. It is the concrete goals that you will see progress with most readily.

To take as an example the lead in school drinking water, one of the first goals would be to simply map stakeholders. This is an activity that can take quite some time because it requires talking to many stakeholders and trying to understand whether they will support you or block you. Getting the map completed with reasonable accuracy is an important milestone because once it is completed, you can begin developing tactics.

A final challenge in measuring your success is finding ways to sustain your advocacy effort. Many advocacy efforts rely on volunteers for support and volunteers A final challenge in measuring your success is finding ways to sustain your advocacy effort. can often be pulled in new directions as new crises arise, or because they are not being paid, it is hard for them to apply the significant and consistent effort that is needed to hold organizations and governments accountable.

Identifying an organiza-

tion to partner with, or creating an organization that can pay staff to remain engaged, is a great way to sustain advocacy efforts. Local public health departments, universities, planning commissions, and health care organizations have more resources than small community organizations and can often be persuaded to partner with parents and concerned citizens to sustain advocacy and monitoring efforts. If they cannot partner with you, they may be able to offer you training, guidance, networking, and other resources to get your own organizations have been established and sustained by just a few, passionate individuals who wanted to have a broader and more sustained impact.

As you will quickly find as you take a children's rights approach to addressing environmental toxins, key partnerships enable your advocacy efforts to be more effective and more sustainable. Seeking them out early and nurturing them will pay long-term dividends for your advocacy goals.

REFERENCES

Aizer, A., & Currie, J. (2014). The intergenerational transmission of inequality: Maternal disadvantage and health at birth. Science, 344(6186), 856-861.

Canfield, R.L., Gendle, M.H., & Cory-Slechta, D.A.. Impaired neuropsychological functioning in lead-exposed children. *Developmental Neuropsychology*, 26(1):513-540. doi:10.1207/s15326942dn2601_8.

Center for the Human Rights of Children. (2014). *A City and Countywide Summit to Advance Healthy Homes and Healthy Communities and Chicago and Cook Counties, Illinois*. Chicago, IL: Loyola University Chicago. Retrieved from: http://luc.edu/media/lucedu/chrc/pdfs/A%20City%20and%20Countywide%20Summit%20to%20 Advance%20 Healthy%20Homes%20&%20Healthy%20C.pdf.

Centers for Disease Control and Prevention. (2011). *National Report on Human Exposure to Environmental Chemicals*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved from: https://www.cdc.gov/exposurereport/.

Clean Air Act Amendments of 1970, Public Law 91-604 (84 Stat. 1676).

Cox, D.C., Dewalt, G., O'Haver, R., & Salatino, B. (2011). *American Healthy Homes Survey: Lead and Arsenic Findings*. Washington, D.C.: U.S. Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control.

Grigg, J. (2004). Environmental toxins; their impact on children's health. *Archives of Disease in Childhood*, 89(3), 244, Äì250. http://doi.org/10.1136/adc.2002.022202.

Institute of Medicine, Roundtable on Environmental Health Sciences, Research, and Medicine, Board on Population Health and Public Health Practice. (2014). The challenge: chemicals in today's society. In: *Identifying and Reducing Environmental Health Risks of Chemicals in our Society: Workshop Summary*, 7–8 November 2013, Washington, DC: National Academies Press.

Jacobs, D.E., Clickner, R.P., Zhou, J.Y., Viet, S.M., Marker, D.A., Rogers, J.W.,... & Friedman, W. (2002). The prevalence of lead-based paint hazards in U.S. housing. *Environmental Health Perspective*. 110(10), 599-606.

Kim, J.J. (2004). Ambient air pollution: Health hazards to children. *Pediatrics*, 114(6), 1699–1707.

Lanphear, B.P., Vorhees, C.V., & Bellinger, D.C. (2005), Protecting children from environmental toxins. *PLoS Med.* 2005, 2(3), e61.

Muller, C., Sampson, R.J., & Winter, A.S. (2018). Environmental inequality: The social causes and consequences of lead exposure. *Annual Review of Sociology*, 44(1), 263-282.

Oudejans, L. (2016). Report on the 2016 U.S. *Environmental Protection Agency (EPA) International Decontamination Research and Development Conference*. U.S. Environmental Protection Agency: Washington, D.C.

Pulido, L. (2016). Flint, environmental racism, and racial capitalism. *Capitalism Nature Socialism, 27*(3), 1-16, doi: 10.1080/10455752.2016.121301.

Weitzman, M., Baten, A., Rosenthal, D. G., Hoshino, R., Tohn, E., & Jacobs, D. E. (2013). Housing and child health. *Current Problems in Pediatric and Adolescent Health Care, 43*(8), 187-224.

Woodruff, T.J., Zota, A.R., & Schwartz, J.M. (2011). Environmental chemicals in pregnant women in the United States: NHANES 2003, Äì2004. *Environmental Health Perspectives, 119*(6), 878-885.

