Transforming the Public Debate on Neurotoxicants: The Learning and Developmental Disabilities Initiative

- **Elise Miller, M.Ed.**

Learning and developmental disabilities (LDDs) appear to be on the rise, affecting at least 17 percent of youth in the U.S. under the age of 18.[1] Though there is some controversy regarding how new diagnostic tools may be contributing to these increasing statistics, one in six of our kids struggling with these issues is simply too many.

A number of factors—heredity, gene expression, social environment, nutrition and synthetic chemicals—contribute to brain development in complex ways. Recent research, however, reveals that exposures to certain neurotoxicants such as lead, mercury, pesticides, polychlorinated biphenyls (PCBs), polybrominated diphenylethers (PBDEs) and some solvents can have a particularly detrimental impact on brain function and in turn lead to the expression of learning and developmental disabilities. These environmental contributors are often the least researched and are ultimately the most preventable.

We also know from research on children's health that the developing fetus and children are more vulnerable than adults to environmental exposures for a variety of reasons. For example: their biological systems are still developing; they metabolize at a much faster rate; pound per pound they eat, drink and breath far more than adults; and their behavior, such as crawling on the ground and putting their hands in their mouths after touching the floor, results in higher exposures to children. If they are exposed to even low doses of toxic chemicals at critical windows of development, their ability to achieve their full potential may be impaired for life.

To date, most learning and developmental disability groups have focused on identifying affected kids and getting them the services they need—something that is, of course, very important. However, there is a parallel need for prevention of exposures that lead to these disabilities in the first place. Under the auspices of the Collaborative on Health and the Environment (CHE), the Learning and Developmental Disabilities Initiative (LDDI) was formed in April 2002 to engage national and regional learning and developmental disabilities groups interested in looking upstream and focusing on the prevention of exposures to neurotoxicants.

LDDI's overarching goals:

At the first meeting of LDDI in May 2002 in Washington, DC, the group determined that the national LDD sector, with its hundreds of thousands of members, in collaboration with scientists and key environmental health and justice organizations, could be an effective voice for protecting children from toxic hazards related to brain development.

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[1] Boyle CA, Decoufle P, Yeargin-Allsopp M. Prevalence and health impact of developmental disabilities in US children. Journal of Pediatrics March 93(3):399-403, 1994.

Given this, the group adopted the following goals and strategies:

1) Educating state and national learning and developmental disabilities groups about possible environmental links to these problems and the need for prevent exposures to neurotoxicants;
2) Raising awareness among the groups' broader constituencies through workshops, presentations and dissemination of materials;
3) Cultivating opportunities for interested groups to educate legislators on specific bills that would eliminate neurotoxicants, such as mercury and persistence bioaccumulative toxic chemicals; and
4) Increasing collaboration and expanding partnerships among groups and individuals who are interested in promoting good health and preventing toxic exposures that can lead to or exacerbate disabilities.

Accomplishments since LDDI's inception in April 2002:

LDDI has now engaged over 100 organizations and individuals primarily from learning and developmental disabilities groups. The Learning Disabilities Association of America (LDA) was the first organization to develop a model program on protecting children from neurotoxicants, having already begun to look at toxic contributors to learning disabilities over the past several years. As an extension of their engagement with LDDI, the LDA has established a new national Healthy Children's Project with initial focus in state chapters in California, Maine and New York. Since then, 16 additional chapters have expressed interest in establishing programs in their respective states.

The American Association on Mental Retardation (AAMR), which published a report over 20 years ago on environmental links to mental retardation, is now reinvigorating its interest in the impact toxic exposures may have on brain development. Working with colleagues in LDDI, AAMR organized a conference at the Wingspread Conference Center on "Pollution, Toxics and Mental Retardation" in July 2003. This was the first national meeting to bring together the developmental disabilities and environmental health sectors to discuss national educational and policy-oriented strategies regarding neurotoxicants and developmental disabilities. Taking the results from this meeting, AAMR is about to publish a national blueprint on policy opportunities in this sector.

With LDDI encouragement, the Autism Society of America (ASA) has now accepted a session on toxic environmental contributors to autism for the first time at the annual ASA national conference in 2004 to educate their constituencies. ASA is also discussing how they might do further outreach to their 200 chapters across the country regarding these issues.

In addition to these groups, LDDI is working with the Arc of the United States, Safe Minds, Developmental Delay Resources, National Literacy Foundation and the Communities Against Violence Network among many others. Through conference calls and face-to-face meetings, LDDI members have drafted and circulated a resolution to leverage further awareness about these issues as well as specific policies reducing emissions of neurotoxicants. In addition, they have published a summary on

neurotoxicants found in human blood and urine samples as reported by the Centers for Disease Control's second biomonitoring report in January 2003. Other LDDI efforts include exploring collaborative opportunities with environmental health partners to reduce mercury emissions and pesticide use and writing "Practice Prevention" columns which highlight how lay people can protect their children and themselves at home from neurotoxicants.

LDDI held its first major national at the National Institutes of Health in Bethesda, MD on May 19, 2004. Almost 100 researchers, health-professionals, government agency representatives, learning and developmental disabilities advocates, philanthropists and environmental health leaders attended. New research on neurotoxicants was presented and suggestions for collaboration on research, education and advocacy emerged from discussions. For further information, please see: www.iceh.org.

Overall, the organizations currently involved in LDDI have well over 500,000 members combined—a significant sector of our society with a powerful voice to create positive change. With increased knowledge about these concerns through LDDI, these groups and individuals will have the opportunity to not only make healthier choices personally, but to press for appropriate policies that protect children from toxic exposures so that they can lead full and healthy lives.

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