Proposed Disease Cluster Legislation: What’s Nanotechnology Got to Do With It?

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In January, a bill was introduced in Congress proposing an act to assist governments on all levels to investigate disease clusters. The short title is the “Strengthening Protections for Children and Communities From Disease Clusters Act,” and is referred to as the Disease Clusters Act. Disease clusters are generally defined as “the occurrence of a greater-than-expected number of cases of a particular disease within a group of individuals, a geographical area, or a period of time.” Sec. 5(4)(A). Because children are more susceptible than adults to the risks of environmental pollutants and toxic substances – due to a variety of developmental and environmental factors – the act proposes to facilitate investigation of disease clusters and the potential hazardous substances that may cause those diseases. The act would grant authority to EPA to develop regulations and to coordinate efforts and funding with states and communities. Sec. 3 & 4.

Disease clusters are well known in toxic torts. The existence of a disease cluster does not necessarily mean that a causal connection can be drawn between the disease and substances to which the population was exposed. Recent examples have been breast cancer clusters in Long Island and autism clusters in New Jersey or among children who have received certain vaccines. While it is possible that environmental or product-related connections could yet be discovered, to date reliable science has not been able to make those connections. In contrast, in Woburn, Massachusetts, in the 1980s, citizens discovered a cluster of childhood leukemia. Grass roots investigation, followed by an epidemiological study performed by Harvard University, demonstrated a connection between chemicals in the drinking water supply of two of the wells that supplied the part of town where the ill children lived. The story of this community and the subsequent litigation have been described in Jonathan Harr’s book, “A Civil Action,” and the movie adaptation.

As the Woburn example demonstrates, it is important to investigate disease clusters. But it is equally important to recognize that sometimes a disease cluster is coincidental. The proposed legislation would treat all disease clusters alike in the initial phases of investigation, using the best available science. And some might criticize an outlay of resources for an uncertain enterprise.

Where does nanotechnology enter this picture? The act makes no mention of any specific potential hazards, though it does reference environmental pollutants and toxic substances and indicates that the substances may be present in the air, water, ground, drinking water supply, waste sites, and any other place, whether or not already regulated by another statute. Sec. 5(7). Nanomaterials in the environment would fall within the definitions in the act. The act would be a way to examine the health and environmental effects of nanotechnology that may not be captured – or yet captured – under existing regulatory schemes.

The downside, however, is that citizens shouldn’t have to wait until disease clusters manifest for potential hazards to be studied. Diseases such as cancer caused by exposures to toxic substances generally manifest symptoms after a latency period that could be as long as several years. The same is true of developmental delays in children. It is always preferable to prevent the problem in the first instance. But the law recognizes that that is not always possible. This disease cluster act would be a post hoc solution, after some people have already become ill. But it could prevent others from suffering the same fate.

The bill is sponsored by Senators Barbara Boxer and Mike Crapo. It was referred to the Committee on the Environment and Public Works, which favorably and without amendment reported it to Congress on June 9, 2011.

The bill may be read in its entirety at www.govtrack.us/congress/billtext.xpd?bill=s112-76