Consumers need more protection from chemicals and pesticides

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Current regulation of chemicals and pesticides effectively leaves it to consumers to manage their own risk of exposure, writes Sanne Knudsen, a University of Washington associate professor of law. Credit: University of Washington

Sanne Knudsen was an undergraduate in Chicago when she got her first close-up look at environmental justice.

As an environmental engineering student at Northwestern University, Knudsen answered an attorney's call for volunteers to study several neighborhoods on Chicago's South Side, communities that had endured more than their share of pollution and exposure to chemicals. Through that work, Knudsen found a future calling.

"That piqued my interest in environmental law and the impact law can have," said Knudsen, who now specializes in environmental regulations and natural resource law as an associate professor in the University of Washington School of Law.

Later, as a law professor and parent, she started thinking even more deeply about the myriad ways that people are exposed to chemicals, and how weak government regulations leave individual consumers to fend for themselves. But "individual vigilance is not a viable public health response," she says. Whether in food, housecleaning products or even unknown pesticides at a local park, chemicals are everywhere.

"There are so many individual decisions we make on a daily basis when it comes to risks from chemicals and pesticides," she said. "When you think about it, the individual consumer is simply not the proper locus of responsibility. Greater public health protection from government is needed."

Knudsen wrote an article for the current issue of the University of Minnesota Law Review, "Regulating Cumulative Risk," which makes a case for establishing and enforcing rules to protect consumers from the widespread health risks posed by chemicals and pesticides.

What is cumulative risk, and how does it apply to pesticides and chemicals?

SK: Cumulative risk tries to get at the real-world exposure scenarios, in which we understand that an individual is not exposed to a single product but to multiple products, multiple chemicals at the same time. This occurs through many exposure pathways like skin, inhalation and food. The interactions between these exposures can be additive or even synergistic, especially for classes of chemicals that act in a similar way. For example, multiple chemicals can be endocrine disruptors, like as antibacterial agents in soap or flame retardants on couches. From a public health perspective, it's less useful to only ask about the endocrine disrupting potential of one chemical and more useful to ask about the cumulative effect of a class of endocrine disruptors. Of course, the consideration of multiple exposure pathways from multiple chemicals is what makes cumulative risk assessment complicated and helps to explain why it's something that has fallen to the back burner of regulatory efforts.

How has the burden fallen to the consumer to ferret out safety information?

SK: The TSCA (Toxic Substances Control Act), which was updated in 2016 as the Chemical Safety Act, also used a threshold of unreasonable risk, but because of the way the law was structured, we effectively left the toggle switch open. New chemicals entered the market, to the point where we have about 85,000, and for very few of them do we have the public health information as to the potential adverse consequences of exposure. This leaves individuals and various organizations, such as the Environmental Working Group, to assess products and chemicals and to provide messages as to the potential impacts of say, BPA or phthalates. You end up with a system that in fact is relying on individuals to manage their own risk profiles, because the government isn't managing them for us. Similarly, the major pesticide law, FIFRA (the Federal Insecticide, Fungicide and Rodenticide Act), has traditionally been a labelling law.

Pesticides are registered with the federal government, and as long as they don't pose "unreasonable risk" to the environment, the form of regulation is really in labeling and creating restrictions on how pesticides are used.

How can the average consumer effectively manage their chemical risk?

SK: It's hard enough to understand the toxic profiles and the health consequences of an individual chemical. When you start talking about cumulative risk, you need quality information across multiple chemicals, how those various exposure pathways combine to provide a dose to a single individual, and how multiple chemicals behave with respect to one another. We don't have all that information. What's more, the level of expertise that's required for understanding the risks is beyond the average person. And even if we had and understood the information, individuals can't always opt out of risk, for a variety of reasons: one, because chemicals may already be part of the ambient environment, which is the story of PFOA (a chemical in Teflon) and groundwater contamination. This also gets to the environmental justice piece. Often, when you read news articles about the prevalence of chemicals in everyday life, those stories are paired with tips about what you can do to protect yourself and your family, like eating organic. But organic foods are more expensive, and not everyone has the means to protect themselves. To what extent do we want our public health policies to create disparate impacts because we're depending on individuals to manage that risk? Look at the public health crisis with drinking water in Flint, Michigan. Not everybody there can afford to drink only bottled water or move to a different city. Part of the conversation about how we handle pesticides and chemicals at a public health level has to be about disparate impacts.

Your paper points to the 2016 amendments to TSCA as a potential move toward this sort of assessment. Explain.

SK: Under the old TSCA, chemicals presumptively went to market unless the EPA could show that the chemical posed unreasonable risk. But the EPA only had a fairly narrow, 90-day window to make that showing. Under that standard, less than a handful of chemicals were found to pose a risk after nearly four decades of regulation.

Now, under the new Chemical Safety Act, the burden has flipped. Manufacturers have to show the safety of their product. This is also the model that has been adopted within the European Union. Under this model, the U.S. EPA now has more control over the timing and kind of information that should be included in a safety showing. In theory, the EPA could require chemical manufacturers to show safety not just as a matter of individual risk, but of cumulative risk. But the EPA would first have to decide that assessing risk necessarily includes consideration of cumulative risk.

Some agencies at the state level, such as California, are using cumulative risk to identify areas and communities that are at greater risk and establish regulatory priorities. So it's not that nobody is engaging in cumulative risk assessment, but for it to be done on a broader scale and in a way that directly impacts chemical regulation, there has to be some sort of regulatory driver at the federal level.

What is your expectation under the current presidential administration?

SK: I started working on this paper before the election. At the time, my thinking was to expose a public health gap in existing regulation, in

hopes that a new administration would be interested in using existing laws to start to address more complex problems within environmental regulation. In our current political climate, I'm no longer as optimistic that the EPA would decide to interpret a phrase like "unreasonable risk" to be more expansive in its regulatory efforts, or to seek greater information as to the real-world public health problems in pesticide and chemical regulation. I doubt the EPA will take up this issue unless it were the subject of impact litigation and a court order required them to view risk from a cumulative risk perspective.

That said, I think news articles are consistently trying to shed light on this particular public health issue. As we know more and as science evolves, we become more and more informed. At some point, the public will push for a more coordinated response to these public health issues.

Provided by University of Washington