

**Testimony by MassDEP Commissioner Laurie Burt Before the Joint Committee on
Public Health
Tuesday, May 13, 2008**

Topic: Pharmaceuticals and Personal Care Products

Chairman Koutoujian, Chairman Fargo, and Members of the Committee on Public Health:

- Thank you for the opportunity to address the Committee today on the important topic of Pharmaceuticals and Personal Care Products (or PPCPs). The presence of pharmaceuticals and personal care products in water supplies is an emerging national issue and a legitimate concern.
- This is an issue that requires national leadership on evaluation, health risk assessment and corrective measures. However, the level of resources needed to address these issues has not been forthcoming to date. But that does not mean that the Commonwealth or other states are sitting on our hands. No – we have been and will continue to be proactive on this issue.
- MassDEP was one of the first state environmental agencies in the country to identify pharmaceuticals and personal care products as "emerging contaminants" that needed to be studied and prevented from entering drinking water supplies. We are now developing an overall strategy to define the scope of this issue in Massachusetts; identify sources that contribute to the problem and develop and implement any necessary technical and policy solutions.
- People are the primary source of pharmaceuticals and addressing this issue involves educating the public about what they can do to minimize releases of these compounds into the environment, and developing a strategy on them that ensures environmental and public health protection.

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- Let me turn to the context of concern about this issue:
- Water and wastewater professionals have the technology today to detect more substances – at lower levels – than ever before. As analytical methods improve, pharmaceuticals are being found at very low levels in the nation's lakes, rivers and streams.
- Pharmaceuticals get into surface and ground waters by many pathways, including:

- Improper disposal of products down drains, sinks and toilets;
 - Excretion that contains medicines and other compounds that are ingested by humans and animals; and
 - Residuals from the external use of these compounds that get washed down the drain.
- Because not all of these compounds are completely removed by wastewater and water treatment technologies, low amounts of some of these substances may reach drinking water supplies. Although the concentrations of pharmaceuticals that have been found in some drinking water supplies are at levels far below biologically active levels, the potential effects from acute and continuous low-dose chronic exposure to these compounds in humans have not been well studied and therefore warrant caution.
 - As you are aware, there are no state or federal drinking, ground or surface water regulations regarding pharmaceuticals and personal care products and no requirements to test for these compounds. So in order to better understand the scope of this issue in the Commonwealth, MassDEP is supporting further study to determine the extent of these substances in our water resources, and ways to effectively minimize them using resource protection, pollution prevention and treatment processes.

Recognizing the importance of the pharmaceutical issue, MassDEP is undertaking important actions on our own to address the issue in the Commonwealth, including:

1. Massachusetts has been a leader in evaluating pharmaceuticals in the environment.

- We first began targeting these compounds as part of MassDEP’s “Emerging Contaminants Work Group.” This Work Group centralizes the Department’s focus on emerging contaminants, fosters information exchange, and brings together a broad range of cross-program expertise. Our Work Group identified pharmaceuticals as a priority.

2. Since identifying them as a priority, MassDEP has been actively involved in research projects to better understand the scope of the problem, sources of pharmaceuticals and potential solutions.

- *UMass-Amherst Research Project.* MassDEP is undertaking a collaborative research project with the UMass-Amherst College of Engineering, the consulting firm EarthTech, and local drinking water suppliers on the presence of pharmaceuticals and the efficacy of different treatment technologies on removing them.

- In this study, raw and finished water samples will be analyzed for 12 different compounds. Water samples will be treated with ozone, chlorine or chloramines, which are chemicals typically used to disinfect public water supplies. Levels of pharmaceuticals before and after treatment will be assessed. The research team will also use bioassay techniques to determine pharmaceutical effects on fish.
- *USGS Research Project.* MassDEP is also supporting a national research project sponsored by the U.S. Geological Survey (USGS – *for their purposes, not for EPA*). As part of this study, USGS will take raw water samples this spring from surface waters in Massachusetts – including the Merrimack River – and scan the samples for hundreds of different compounds. The study will also track pharmaceuticals to determine their fate through the drinking water treatment process. Preliminary results are expected in spring 2009.
- *Interstate Technology and Regulatory Council (ITRC):* Last month, MassDEP also submitted a proposal to the Interstate Technology and Regulatory Council (ITRC – *see background info on IRTC*) requesting funding for additional research on pharmaceuticals. If selected, MassDEP will use the funds to evaluate the effectiveness of wastewater treatment systems at removing these compounds from the waste stream.
- DEP will work with DPH and our Science Advisory Committee to determine what levels of pharmaceuticals and personal care products might be a concern, with the goal of recommending guidance on what levels will be protective of the public health.
- This research is necessary because we need a better understanding of the sources, fate and transport of these compounds to better target reduction strategies and treatment strategies, as well as get a better understanding of the potential exposures to humans and our ecosystems.

3. One solution to water contamination is to prevent the disposal of pharmaceuticals into wastewater. Towards that end, MassDEP is strongly promoting voluntary pollution prevention activities:

- MassDEP has set up a web page on pharmaceuticals and personal care products to inform the public about the issue and, more importantly, to advise them on what they can do to help keep them out of the environment.
- We are asking Massachusetts' residents *not to flush* unused prescription drugs down toilets or sinks, but instead dispose of them safely in the trash. (Remove the labels, place them in sealable bags or a used can, and place them in the trash.)

- We are also partnering with the Department of Public Health, the Massachusetts Water Resources Authority, and the Executive Office of Energy and Environmental Affairs to implement a public information campaign and other strategies to keep pharmaceuticals out of the environment.
- The group is collecting information on take-back programs that have been implemented in other states and other countries to determine which are most effective and feasible for Massachusetts.

4. MassDEP and DPH are co-sponsoring an important summit on pharmaceuticals and personal care products.

- DEP and DPH are jointly convening a summit of key stakeholders on June 5 to assist Massachusetts in developing an effective overall strategy to evaluate the scope and impact of these compounds on human health and the environment, their sources, and effective and workable solutions. We plan to hold ongoing summits, with the second planned for this fall.
- I would welcome the active participation of this Committee in our Summit.

5. MassDEP Continues to Pursue Research on this Issue With Available Resources.

MassDEP is committed to using existing resources and seeking additional outside funding to pursue research in this area. Funding for DEP's Wall Experiment Station in Lawrence, for instance, would ensure that the Commonwealth has the capacity to conduct its own sampling and research projects addressing pharmaceuticals and other toxic pollutants. The Environmental Bond Bill includes funding for this vital research facility. *(Proposed Bond Bill funding for Phase II of the WES project totals \$8 million.)*

A full research program on pharmaceuticals and personal care products would include:

- Evaluating the effectiveness of wastewater treatment systems in removing pharmaceuticals from the waste stream.
- Screening for pharmaceuticals in drinking water supplies that are impacted by wastewater using indicator substances – that is, “surrogates” that are more easily tested. Finding the presence of indicator substances (such as caffeine) in any drinking water supply would trigger a broader screening program for specific compounds.
- Researching the fate and transport of these compounds in surface waters and ground waters. We would evaluate scientific parameters, such as time of travel, dilution rates, dispersion rates, and diffusion rates as these compounds move downstream or through subsurface soils.

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Because pharmaceuticals are a national issue, further federal action is warranted. Massachusetts and other states are urging the federal government to:

- Develop and implement a national action plan on pharmaceuticals and personal care products;
- Promote “Green” compounds to minimize or eliminate environmental contamination from these products; and
- Assess and track human pharmaceutical exposures and health risks.

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- In summary, pharmaceuticals and personal care products in the environment are a national issue demanding a national response. Recognizing the importance of the issue and the need to take proactive steps toward addressing pharmaceuticals, MassDEP has initiated a series of actions on its own on multiple fronts and will continue to support these measures. I have summarized several of our current and planned activities today, and can provide the Committee with further details, as needed.
- MassDEP stands ready to work with other state and federal agencies to address the scope and impacts of pharmaceuticals, their sources and fate in the environment, and to develop solutions that protect the public health and environmental quality.
- Working together – state and federal agencies, private researchers and universities, stakeholder groups and citizens – we will find the answers being asked about pharmaceuticals and personal care products. And only then, will we be able to determine if there is an impact on the public health and how we should address it.
- I appreciate this chance to address the Committee today. Thank you.

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