



ATSDR's Fresh Look at Environmental Chemical Exposures on the Island of Vieques - Progress Report

November 13, 2009

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Summary

ATSDR is currently engaged in a “fresh look” at environmental health concerns on the Island of Vieques, Puerto Rico. This progress report describes the status of ATSDR’s review of its own work and other reports on environmental exposures and health effects on Vieques. It describes the direction ATSDR will take as it reaches final conclusions. This progress report is based on internal agency review, a site visit to Vieques in August 2009, and a scientific consultation with experts from Puerto Rico and other universities in November 2009. A final report is expected in early 2010. ATSDR expects to:

- change some of its earlier conclusions regarding the safety of environmental exposures on Vieques;
- recommend biomonitoring to determine whether persons living on Vieques have been exposed to harmful chemicals, and, if so, at what levels those chemicals may be in their bodies;
- work with Puerto Rican health officials to conduct more in-depth evaluation of health outcomes;
- work with community members and Puerto Rican health officials to issue science-based, precautionary recommendations to protect public health;
- work with partners in the Puerto Rican health care community to encourage improved access to health care for residents of Vieques; and
- coordinate an inclusive, accountable process featuring participation of Puerto Rican community members and professionals in moving forward.

Background

In 1999, a resident of the Island of Vieques petitioned the Agency for Toxic Substances and Disease Registry (ATSDR) to evaluate environmental data for the island and to determine if health risks had resulted from bombing conducted on the island by the United States Navy. Between 2001 and 2003, ATSDR released four public health assessments (PHAs). Each PHA assessed a specific pathway for possible exposure to chemicals – seafood (fish, shellfish and land crabs), drinking water, air and soil. In conducting its evaluation, ATSDR used the public health assessment methodologies described in its Public Health Assessment Guidance Manual, which can be found at <http://www.atsdr.cdc.gov/HAC/PHAManual/index.html>. Each PHA was peer-reviewed before its final release. The PHAs concluded, based on data and modeling, that no health hazard was associated with any pathways evaluated, except drinking water from one local well and eating lobsters.

Scientists and members of the Vieques community expressed dissatisfaction with ATSDR's findings, believing that military maneuvers left residual environmental hazards that must have impacted the health of Viequenses. In March 2009, Congressman Stephen Rothman (D-NJ) requested that ATSDR revisit our evaluation of Vieques. Acknowledging the community's concerns, ATSDR made a commitment to take a fresh look at Vieques. As we take this fresh look, ATSDR believes it is imperative that we review all available environmental, human biomonitoring and health outcome studies that have been conducted for Vieques. ATSDR has gathered more than 75 documents reporting on environmental sampling, health outcomes, and biomonitoring.

In August 2009, ATSDR director Dr. Howard Frumkin, accompanied by scientists and staff, visited Vieques and met with community leaders and Puerto Rican scientists and health officials. An outcome of those meetings was a commitment to involve local experts in ATSDR's review of Vieques. ATSDR requested that Puerto Rican scientists and others who have studied Vieques participate in a scientific consultation. That meeting was held in Atlanta, Georgia on November 5-6, 2009 and entailed a thorough review of multiple studies. Participants in the scientific consultation identified the strengths and limitations of many of the studies and made recommendations for further work.

ATSDR greatly appreciates the scientists taking time to travel to Atlanta and share their findings and perspectives. We salute the independent scientists and community leaders for their dedication to the health of the people of Vieques, and we look forward to working with them as we move forward with our fresh look at Vieques.

Based on its review and the expert consultation, ATSDR has identified directions it will follow in reaching conclusions and issuing recommendations. This progress report describes those directions. They fall into six categories:

- Findings regarding environmental contamination
- Findings regarding biomonitoring
- Findings regarding health outcomes
- Recommendations for public health protection
- Recommendations regarding health care access
- Plans for conduct of future work.

Environmental Contamination

Much work, by ATSDR and others, has focused on assessing levels of environmental contaminants on Vieques. ATSDR identified gaps in some of the data on which its previous reports relied, such as limits in air monitoring and soil data. ATSDR also identified conclusions in its previous reports that did not adequately consider vulnerable populations or express the limitations and uncertainty of the findings. Finally, ATSDR identified data produced by Puerto Rican and other investigators, such as analyses of some plants, which provided a more complete picture of environmental contamination on the island and in offshore marine ecosystems. As a result, ATSDR will modify some of its earlier conclusions. In some cases this will involve recalculating exposures with a focus on high-risk populations (e.g., heavy fish eaters, pregnant women, children) and worst-case scenarios. In addition, ATSDR will address the U.S. Food and Drug Administration's fish consumption recommendations for pregnant women as they relate to the fish consumed on Vieques. ATSDR also will provide

more information on the uncertainty of the data used to estimate people's exposures. ATSDR also will discuss additional pathways, such as the marine environment and locally-grown produce.

ATSDR will redouble efforts to obtain all available information from other agencies on what contaminants may have been released on Vieques during past bombing. ATSDR will recommend studies to fill gaps in available environmental data, such as surveys to determine food consumption patterns as well as sampling to determine contaminant levels in the edible portions of locally grown produce. ATSDR will work with our partners to identify ways of completing these recommendations.

Biomonitoring

Biomonitoring is the direct measurement of people's exposure to toxic substances in the environment, conducted by measuring the substances or their byproducts in blood, urine and sometimes hair. Biomonitoring measurements are highly health-relevant because they indicate the amount of the chemical that actually gets into people from all environmental sources (e.g. air, water, soil, food, dust). Several biomonitoring studies have suggested that humans have been exposed to environmental chemicals on the island of Vieques. The chemical exposures of greatest concern appear to include aluminum, arsenic, mercury, uranium, cadmium, and, possibly, by-products of explosives. ATSDR is also investigating other chemicals that may deserve attention as well, even though available data may be limited.

ATSDR plans to work with our partners to implement a systematic and scientifically rigorous biomonitoring program.

Health Outcomes

Puerto Rican health professionals reported the impression that the Vieques population suffers significant elevations of illness and mortality. Specific health concerns include cardiovascular disease, kidney disease, and cancer. Several sources of health data exist including cancer incidence and mortality data. ATSDR believes that these data warrant further investigation, and will consult with Puerto Rican health professionals and public health agencies in advancing this goal.

Public Health Protection

ATSDR is committed to issuing science-based recommendations that will help protect the health of the people of Vieques. Appropriate recommendations may include advisories regarding fish consumption and consumption of locally grown produce, and ATSDR will consider such recommendations. In addition, ATSDR recognizes community concern about open burning of vegetation and ongoing detonation of unexploded ordnance. Some community members have the misimpression that ATSDR has approved or issued permits for open burning and detonation. ATSDR has no authority over this permitting process; this authority rests with the Puerto Rico Environmental Quality Board. ATSDR is aware of the complex tradeoffs required in deciding how best to remediate the Live Impact Area. We urge a thorough review of the proposed procedures, with consideration of the entire range of options for removal of ordnance, involvement of the community in every aspect of these discussions, and selection of the most health-protective course of action.

Health Care Access

ATSDR is aware of limitations of health care access on Vieques, such as access to cancer treatment. Although ATSDR cannot provide this care, we will work with our public health and health care partners in the community to seek improvement in access to health care.

Plans for Conduct of Future Work

ATSDR scientists will prepare a summary report addressing the topics noted above, including a critical evaluation of previous environmental health work done for Vieques and recommendations. As part of the scientific process, this report will be peer reviewed by independent experts. An opportunity for public comment on the report will be offered before it is finalized.

As part of its fresh look, ATSDR recognizes and endorses the need for oversight and accountability, including strong local involvement in our activities on Vieques. Both in preparing the final report, and in moving ahead with future work, ATSDR commits to an inclusive, accountable process.

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