

New Mexico's First Pharmaceutical Take Back Event

Rio Rancho, NM, June 20, 2009

Thanks to the collaborative efforts of various agencies, the state's first pharmaceutical take back event was held in Rio Rancho at the Santa Ana Star Center parking lot.

The take back event was coordinated between the City of Rio Rancho Environmental Programs Department, Keep Rio Rancho Beautiful, the NM Environment Department, the US Drug Enforcement Agency, the NM Regulation and Licensing Department/Board of Pharmacy, the Aging and Long Term Services Department and the Rio Rancho Department of Public Safety. It was conducted in conjunction with Rio Rancho's periodic Household Hazardous Waste collection, as programs in other states suggested that a larger participation from the public would be seen if the events were coupled together.

HOUSEHOLD HAZARDOUS WASTE COLLECTION
Saturday, June 20
Santa Ana Star Center Parking Lot
9:00 AM to 2:00 PM

Pharmaceutical Take-back
Saturday, June 20
Santa Ana Star Center Parking Lot
9:00 AM to 2:00 PM

YES

- Over-the-counter medications
- Prescription medications
- Controlled substances
- Pet medications

NO

- Chemotherapy drugs
- Liquids
- Sharps/Needles
- Injectables

Please bring pharmaceuticals in original containers, personal information may be blocked out.

Properly disposing of medications protects our water and public safety.

For more information call 891-5015

Summary

After three years of research, New Mexico had the momentum to get its own pharmaceutical take back program started. The history of chemical contamination of the environment shows us that we need to be vigilant about protecting our resources, especially when these compounds could possibly affect human health. These programs also present a solution to the problem of prescription drug abuse.

These are complicated programs to get off the ground but many agencies with the same goal, as shown with this project, can work together for the benefit of the environment and the people of New Mexico. This event was extremely well received and successful. We received many thanks and compliments from the public during this event.



Pictured (from left to right): Sarah Holcomb (NMED/SWQB), Marian Wrage (City of Rio Rancho Environmental Programs), John Francis (Rio Rancho DPS), Larry Loring (NM Board of Pharmacy) and Bill Harvey (NM Board of Pharmacy)

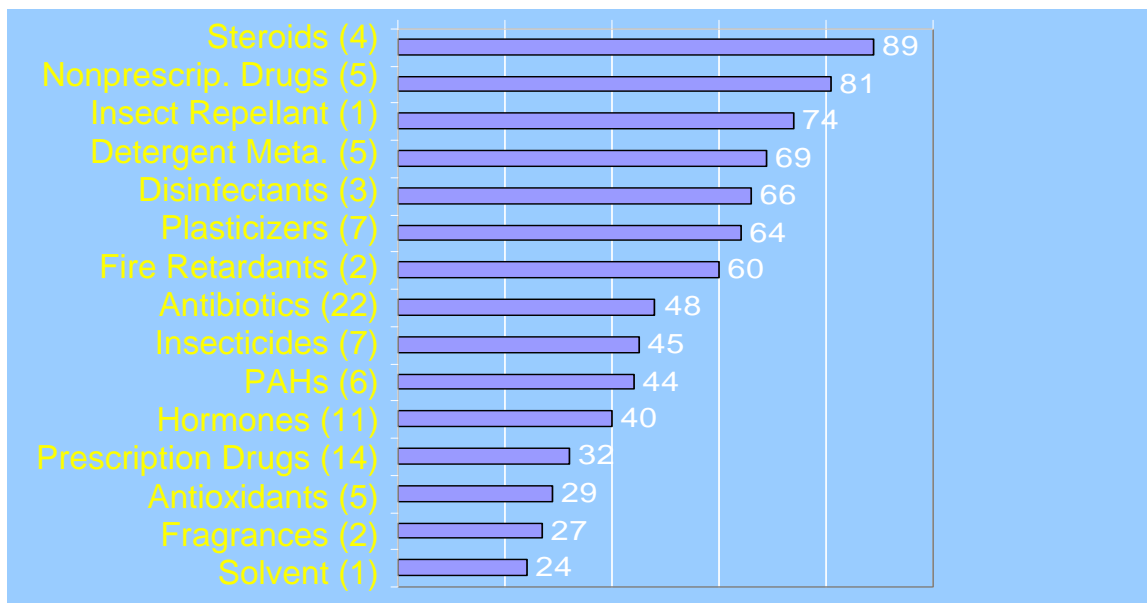
History: Why do we need these events?

If we take a look at history, it shows us that generally we do not learn from the past. Looking at chemical issues over the past 100 years, regulations to control asbestos, diethylstilboestrol (DES) and benzene came too late to prevent harmful effects to the public. The European Union operates on a theory called the Precautionary Principle, which basically allows them to declare a chemical harmful until it is known for sure how toxic the substance under review truly is. Hopefully we in the United States can adopt the same principle as it pertains to pharmaceuticals and personal care products in our environment.

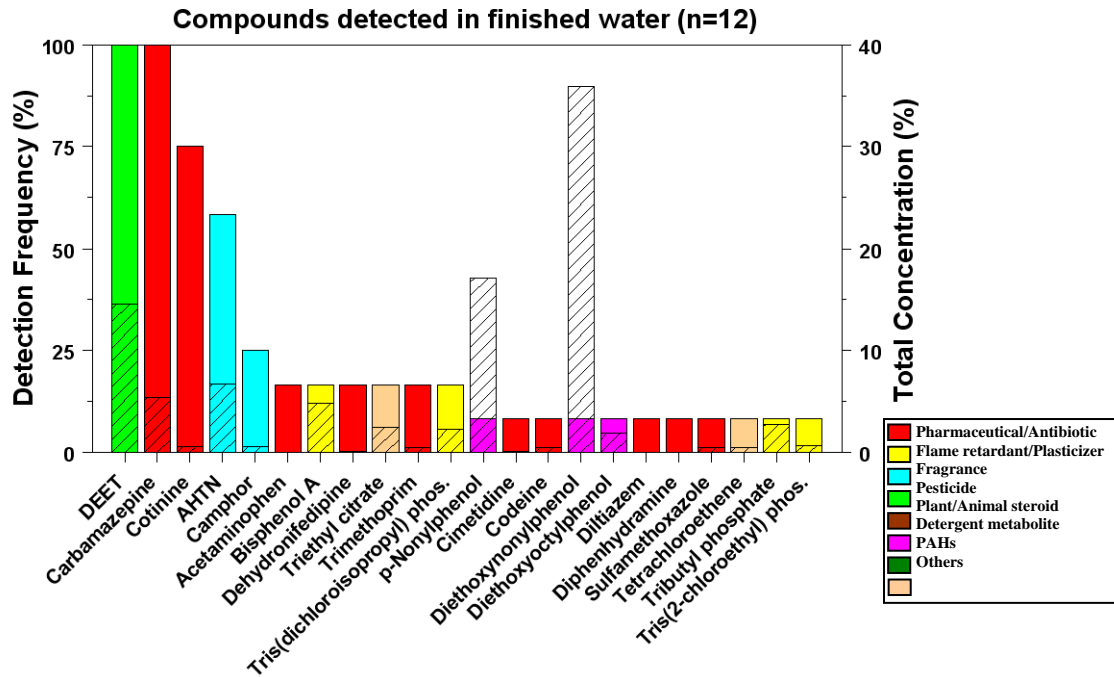
The National Pollutant Discharge Elimination System under the federal USEPA is aimed at eliminating discharges of pollutants to our waterways. A special component of the program is Industrial Pretreatment (IP), specifically targeted to reduce and eliminate harmful industrial chemicals from being released into municipal sewers because typical wastewater treatment facilities cannot treat toxic chemicals. The IP program has worked so well that the program is subsequently overlooked and the federal regulations have remained unchanged, even in the face of new pollutants that need regulation.

The United States Geological Survey (USGS) started doing studies related to pharmaceutical residues in our rivers and drinking water back in 1999. During the first study, headed by Dana Kolpin, 139 streams in 30 states were tested and pharmaceutical residues were found in all streams tested. (A copy of the report can be accessed here:

<http://toxics.usgs.gov/regional/emc.html>)



The chart above shows the results for the portion of the study that looked at raw river water. The most common chemical found was steroids, in 89% of the total waters tested (four different kinds of steroids were found). However, there were also a wide range of antibiotics (22 types), prescription drugs (14 types) and hormones (11 types) that were also found in the samples taken.



The chart above shows the results from the same study as related to drinking water samples. The compounds found most commonly in drinking water were DEET and carbamazepine (an anti-convulsant and/or mood stabilizer). Some other disturbing findings were Bisphenol A and Diethoxynonylphenol (both endocrine disruptors) and even Tributyl phosphate, which has applications in nuclear science!

The Associated Press did a nationwide story and review of this information in March 2008. They reviewed drinking water systems in 24 major metropolitan areas as well as water supply systems in all 50 states and found pharmaceuticals and/or byproducts in many different areas.

Effects on human health are not yet known from these compounds. However, it is theorized that diseases ranging from cancer to decrease in sperm counts to early entry into puberty are possibly effects from long term exposure to small amounts of these substances. This is why even though these chemicals are found in small amounts (parts per million, parts per billion or parts per trillion) in water, we are exposed to it every single day for our entire lives.

Knowing now what is possibly in our water, a mechanism is needed to tackle this issue. Because federal regulations are extremely slow to change, states and municipalities have tackled this at the local level. Especially for the communities in the arid Southwest, where water is an extremely precious resource and things are getting closer to “toilet to tap” issues, we need to be cautious about our water resources.

How: Who Needs to Be Involved?

As concerned as environmentalists are about pharmaceuticals and personal care products in our water, there are other concerns that need to be factored in as well. KOB News in Albuquerque reported last week that New Mexico is the third state in the nation for prescription drug overdoses. A recent trend with teenagers is an event called “pharm parties.” Since prescription medicines are often easier to obtain than illegal drugs, teens raid their parents’ or grandparents’

medicine cabinets. The medicines are all brought together, dumped into a bowl and teens take turns grabbing a handful of drugs from the bowl and ingesting them to get “high”.

The US Drug Enforcement Agency regulates the traffic of controlled substances under regulation by the Controlled Substances Act. According to those regulations, the only people legally allowed to be in possession of a controlled substance are the persons to whom it is prescribed or a law enforcement officer. Due to the environmental findings over the past 10 years, the DEA realizes that regulations need to be morphed in order to allow capture of these materials before it gets into the ecosystem but again, federal regulations are slow to change. However, they have made interim allowances for state and municipal take back programs to take place.

Around the nation, pharmacy boards, the USDEA, environmental agencies and local stakeholder groups have put together local pharmaceutical take back programs in order to divert these chemicals from the wastestream. Once collected, the law enforcement agencies in other states’ programs (California, Maine, Washington and Oregon) took the pharmaceuticals to an incinerator to be destroyed. The program that took place in Rio Rancho this last Saturday was originally modeled after those programs.

Our Event

Newspaper advertisements were placed into the Rio Rancho Observer and the Albuquerque Journal, radio ads were placed on KZRR 94 Rock and KPEK 100.3 the Peak, and traffic signs/announcements were placed around Rio Rancho prior to the event. This was all funded by the Keep Rio Rancho Beautiful program and the City of Rio Rancho Environmental Programs.

DEA regulations require that any controlled substances collected be in the possession of a law enforcement officer after retrieval from the public. A law enforcement officer (either from the Rio Rancho DPS or the Board of Pharmacy) approached the citizen’s vehicle and accepted the medicines from the public. Four pharmacists were on hand to identify the materials and determine whether they were controlled substances. A log was kept of all materials collected, both for law enforcement and the Board of Pharmacy’s documentation.

Once medicine identification was made, the drugs were either put into a large 55-gallon drum (for non-controlled substances and plastics) or a smaller 5-gallon container (for controlled substances, pills only).

Medicines, personal care products and over-the-counter items were collected from a total of 62 vehicles during the 5 hour collection. Many people brought in large amounts of items, having cleaned out their medicine cabinets for the event. One individual brought in a trash bag full of medicines that they said represented 12 years worth of prescriptions. The exact numbers from the collection are as follows:



»Medicines and personal care products diverted from the environment:

- 1,135 doses of antibiotic
- 565 doses of hormones
- 2,812 doses of controlled substances
- 10,408 doses of other prescriptions
- 21,025 doses of over-the-counter items

Almost every citizen that dropped off their medications expressed their happiness at having a location to dispose of their medications properly.



The non-controlled substances and plastics were picked up by Rio Rancho's contractor, Rinchem, and taken to their facility for incineration. The original plan for the other items collected was to take the controlled substances to the Albuquerque Police Department's incinerator for destruction; however, the planning committee discovered that the APD incinerator was not properly permitted. The controlled substances are currently in the possession of the Rio Rancho DPS, in their evidence locker, and will be mixed with concrete (so as to render the pharmaceuticals irrecoverable) and will be placed in a landfill. The planning committee had originally hoped to avoid this option, as incineration would safely and securely render the medicines completely destroyed.

The Aging and Long Term Services Department provided shredding services through their contractor, Adelante. This service helps to protect the public from possible identity fraud and theft. Approximately 730 pounds of paper was collected for shredding at the event, including personal, fiscal and health care information documents.



Now what? Plans for the Future

Pharmaceuticals in our water make the news quite often. During the week of June 15th, two stories were aired on local news. The first story being the aforementioned piece about prescription overdoses, and the second story being about Amigos Bravos (an environmental group based out of Taos, NM) having conducted pharmaceutical sampling in the middle Rio Grande and finding various compounds in the Rio Grande. These compounds included a pesticide, a tranquilizer, a pain reliever, an insect repellent, caffeine, a sunscreen ingredient and an anti-seizure medication. These were all found in parts per trillion concentrations, and although the concentrations are small, they are environmentally relevant, as shown even in the USGS Kolpin study. The public is aware of the situation and is concerned. Inquiries have been made during the SWQB's triennial review of the state's water quality standards as to whether New Mexico will incorporate pharmaceutical standards in the near future.

With very positive feedback from the public, these events are obviously very well received. Following are actions that must be taken to ensure the success of these programs in the future:

- A meeting needs to be set up within the Environment Department to assure that all regulations are being addressed and complied with for future events.
- The Attorney General's office and the Board of Pharmacy are interested in taking these events statewide, and are interested in meeting with the Environment Department to take that initiative forward.
- The City of Albuquerque is also looking into conducting their own take back program and is currently working on a way to make it an ongoing, continually available option for the community. This is optimally the way to conduct these events, so homeowners do not have to stockpile their medications in their homes while waiting for a take back event to be conducted, creating a potential security issue.
- Programs should be adapted to include hospitals and long term care facilities.

Acknowledgements

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Jennifer Scacco – Manager, Keep Rio Rancho Beautiful

Barry Conant – Keep Rio Rancho Beautiful

Marian Wrage – Manager, Rio Rancho Environmental Programs

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