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Recycling
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Pharmaceuticals Issue

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Pharmaceutical Facts and Figures

- ◆ Between 50% and 90% of active ingredients in medications are not absorbed by our bodies – we excrete them into the sewage system.
- ◆ Approximately 100 pharmaceuticals have now been identified in surface water throughout Europe and the United States in concentrations of parts per billion to parts per trillion.
- ◆ Scientists have linked certain pharmaceuticals with alarming ecosystem changes.
- ◆ Research has shown that the feminization of fish is associated with exposure to sewage water now known to contain birth control pills' active ingredient ethinyl estradiol. Male carp and trout are producing vitellogenin, egg protein usually found only in females.
- ◆ A few years ago Vicki Blazer, fish pathologist with the U.S. Geological Survey, began investigating smallmouth bass in the Potomac River after reports of declines in fishing catches. Fish are used as indicators of ecosystem health, which eventually can translate into human health. A dissection of 184 male bass found that:
 - ⇒ 111 (60 percent) had eggs growing inside their sexual organs;
 - ⇒ One hundred percent netted downstream from Hagerstown sewage plant had this sexual abnormality; and
 - ⇒ Fish like these almost never show up in clean rivers.
- ◆ Lynn Roberts, environmental chemist at Johns Hopkins University, received a \$500,000 EPA grant to test for drugs down river from Baltimore's Back River sewage treatment plant. Working with doctoral students Kevin Bisceglia and Jim Yu, she found 39 of the 52 chemicals they tested for, including:
 - ⇒ painkillers Diclofenac and Naproxen;
 - ⇒ anti-seizure drug Phenytoin; and
 - ⇒ Nonylphenol, a compound formed from decaying spermicides. ζ

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Reversing Decades of Bad Advice...and then what?

Bill Graffin, Milwaukee Metropolitan Sewerage District

“DO NOT FLUSH old medicine down the drain,” read the story on the front page of the web site. Then, the curious and confused started to call.

“I thought flushing was the safest way to get rid of old meds,” said the person on the other line. “What am I supposed to do with it then? I don’t want my kids getting their hands on any of this stuff.” That’s a great question for numerous reasons.

Wastewater treatment plants are not designed to remove medications from wastewater. Pouring old drugs into the sanitary sewer system can send those drugs on a direct ride to the lake, river or creek where your wastewater treatment plant discharges the water it “cleans”. Septic systems don’t remove pharmaceuticals either.

There’s growing concern around the world about trace amounts of pharmaceuticals showing up in waterways and the impact those medicines have on aquatic life and drinking water. There’s very little science on the subject, but what little science that is out there is not pretty.

“So, I should just throw old drugs in the garbage then,” the callers concluded. That’s not ideal either. Landfills can leak into the groundwater. However, many have special systems in place that capture liquids and send them to ...a sewer. In the Milwaukee area, those sewers happen to go to the wastewater treatment plants. Back to square one.

But, it gets more complicated. By law, you cannot give any prescription drug to a friend or relative. You can’t even take them back to a hospital, pharmacy, or doctor. “So, if we can’t flush them, throw them out, or give them back, what can we do,” asked the puzzled callers?

Medicine Collections

Just this year, some Wisconsin communities started conducting take back programs or pharmaceutical collections. We didn’t get a huge turnout here in Milwaukee, but the people who showed up brought a lot of unused and expired meds.

125 people drove their cars up to the collection area and three people walked up. Volunteer pharmacists unloaded the bags and separated non-controlled substances from the controlled. They immediately handed the controlled substances over to the Milwaukee Police Department.

In three hours we collected fourteen 30-gallon drums of non-controlled medications. On the controlled substances side of things, police officers counted an additional 10,472

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AROW NEWSLETTER

ASSOCIATED RECYCLERS OF WISCONSIN

Karin Sieg, Editor

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The AROW Newsletter is published by *Associated Recyclers of Wisconsin* four times per year. Subscription to the AROW Newsletter is included with yearly membership dues to the association. Contributions and editorial comments are encouraged.

Associated Recyclers of Wisconsin

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New Guidance for Safe Management of Household Pharmaceuticals

Wisconsin Department of Natural Resources (DNR)

The Wisconsin Department of Natural Resources (DNR) has developed an enforcement discretion memorandum that conditionally exempts household pharmaceutical waste collected at household pharmaceutical waste collection facilities or events, or that are collected, confiscated or otherwise taken into possession by law enforcement officials from the state's hazardous waste and solid waste rules. The memorandum sets out management standards that must be met. Collected household pharmaceuticals not managed in accordance with these standards will be subject to all applicable requirements under Wisconsin solid and hazardous waste rules.

The United States Environmental Protection Agency excludes all household waste from hazardous waste regulation. In exercising the enforcement discretion Wisconsin's hazardous waste program will not become less stringent than the counterpart federal program.

The enforcement discretion memorandum was approved on June 27, 2006 and will remain in effect for one year from this date. The DNR will evaluate the impacts of exercising the enforcement discretion after one year. Based on the findings, the memorandum will be withdrawn or the appropriate rule revisions will be initiated, whereupon the enforcement discretion may be extended for additional two year periods until the revised rules are in effect. ζ

To view the entire enforcement discretion go to: www.dnr.state.wi.us/org/aw/wm/publications/hazard/EnfDiscretionPharmWaste.pdf



Time to Register!

**2007 Winter Conference
February 21-23, 2007**

**Radisson Paper Valley
Hotel/Conference Center
Appleton, WI**



Keynote Speaker:

- ◆ Brett Hulsey, Better Environmental Solutions

A Few of the Informative Track Sessions:

- ◆ Automated Collection Methods
- ◆ Landfill Gas as a Vehicle Fuel
- ◆ Composting to Reclaim a Former Mining Pit
- ◆ Rubberized Asphalt Road Project
- ◆ Recycling Agricultural Plastics

Tours:

- ◆ Outagamie Co. Landfill Gas-To-Energy/
Paper Recycling MRF Tour

Closing Session:

- ◆ Landfill Stability Rule—Impacts on Material Management (Panel Discussion)

Registration Forms have been mailed and can be downloaded from www.arow-online.org

Maine: A Unique Approach

By Steven Gressitt, M.D., National Occupational Exchange—Maine

Several recently published reports (CASA, DAWN, INCB, and the Partnership for a Drug Free America) paint an alarming picture of prescription drug abuse in the US. In Maine, a unique approach to addressing at least part of the problem is underway. For decades, household medicine cabinets have been accumulating unused medicine with few safe disposal options available or publicized. Governor Baldacci signed the first in the nation bill, effective 7/1/05, that outlines a possible approach to the issue of safe disposal. There are more than a few reasons this is a good thing. First, it may help reduce childhood accidental poisonings. Second, it will reduce the availability of medicines for “pharming,” theft, or burglary. Third it will help

reduce the accumulation that occurs as we all get older. In addition, this legislation will also help avoid disposal into the environment, and help place focus on policies that may inadvertently lead to wasted health care dollars. Each discarded pill, tablet or capsule represents waste in the system.

In the aftermath of the tsunami in South East Asia, it has been confirmed that 600 tons of unusable waste medicine were donated to the area of Banda Aceh alone. Much was donated in good faith, certainly, but has unfortunately become a “second tsunami” to those survivors trying to rebuild a devastated health

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Basic Components of A Drug Collection

Wess Damro, Brown County Port and Solid Waste Department

When you undertake a project its best to identify basic components and key players. With this core knowledge established the rest of the details become very manageable. A drug collection is no different. Once you identify the key parts of a collection the rest falls into place. For all the complexity on the surface you'll find a drug collection can be very easy to accomplish.

Waste pharmaceuticals are a far reaching issue that affects more than just hazardous waste programs. These unused drugs present opportunities for drug abuse and accidental poisonings. It can be difficult to gain support from non-environmental fields so use your knowledge of how this crosses over to rally support from your community. These issues affect doctors, pharmacies, clinics, shelters, law enforcement, dentists, jails, waste water treatment plants, patients, home health care agencies, hospice programs, medical examiners, funeral homes, hospitals, HHW programs, disposal companies, nursing homes, etc., etc., etc. The only real argument a person can make against holding a collection is some meds are actually 200%-500% more concentrated than what the body can absorb. This means if a person takes their medication as directed the excess will be excreted into a sanitary sewer system or home septic system. We can't change everything at once so we have to start with what we can.

It's important to understand that not all medicines are hazardous waste or controlled substances. We are talking about different regulatory agencies and three different ways of looking at some of the same chemicals. A very small percentage of medicines are considered controlled substances by the DEA. The results from collections vary quite a bit, but you can expect 2% - 10% of collected meds to be controlled substances. There are also a very small percentage of meds considered hazardous by the EPA/DNR. You might consider non-hazardous meds a loop hole, but I will get back to this later.

Waste haulers at your collection can not take controlled substances from a resident. Once a controlled substance has left the DEA's closed loop it is out for good unless you utilize the exception provided to law enforcement. This means controlled substances can not be returned to a doctor, pharmacy, etc either. The controlled substance may be possessed by the patient for their personal use. Anything else (sale, transfer or abuse) is prohibited. In theory it's possible to run a collection without taking controlled substances, but even some doctors don't know what meds are controlled so you can imagine the headache trying to educate residents. That's where law enforcement comes into play. It is absolutely mandatory to have law enforcement involved if you collect controlled substances. Law enforcement is exempt from DEA regs allowing them to take controlled substances as an abandoned drug. Law enforcement can store the controlled substances as confiscated evidence and destroy according to their normal procedures. This is the only way to work with controlled substances generated by the public.

Fortunately the Wisconsin Department of Natural Resources is sympathetic to this cause. The DNR has issued a temporary enforcement discretion that conditionally exempts household pharmaceutical waste when properly collected. This allows local law enforcement to dispose of collected controlled substances in a manner compliant with the DEA without violating the DNR's hazardous waste regulations.

The second key to a successful collection are (volunteer) pharmacists. Pharmacists are not mandatory in the way law enforcement is, but they play a vital role because of their training and resources to identify and sort meds. The primary role of a pharmacist is to screen controlled substances. Even with education to the contrary some people will do you the favor of dumping all their pills into one bag. Pharmacists are the only people who can identify these unknowns. Pharmacists also have tremendous customer service skills and interacted with the public very freely.

The third component is your waste hauler. Once controlled substances are diverted to law enforcement the rest of the material is hazardous or non-hazardous waste. The cost to actually dispose of the collected meds will be relatively small when compared to your waste company's mobilization fees and labor. Find a company that will work with you as well as offer incineration (complete destruction) as the preferred method of disposal.

Education and advertising play a large role in a successful collection. Posters, flyers, radio, TV and newspaper can all be useful avenues. Try to work directly with doctors, pharmacies and any of the groups mentioned earlier. You will get better results communicating directly with the people you are trying to reach. The most likely demographic to target is our older population. A point to remember: No matter how thoroughly you educate you will get materials you do not want to collect. You will receive sharps, inhalers, oxygen tanks and other types of cylinders. Do your Boy Scout thing and "Be Prepared." Location for a collection may not be as important as that for your average business. There is one point to keep in mind.

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Environmental Engineering

Recycling
Beneficial Reuse
Waste Reduction
Landfill Services

Brownfield Redevelopment
Innovative Thinking
Good Science
Common Sense

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Pharmaceutical Take-Back: A Community's Success Story

Ron Dickrell, City of Marshfield Wastewater Utility

"Emerging Contaminants in Wastewater" is becoming a more prominent issue in the wastewater treatment profession. The practice of disposing of unused or outdated pharmaceuticals and prescription drugs into toilets or drains seems quite common and is even recommended by the pharmaceutical and medical profession. A group of Groundwater Guardians in the City of Marshfield became concerned about this practice and decided to proactively do something about it. Led by Dr. Mark Borchardt, a scientist at the Marshfield Medical Research Foundation, and other Groundwater Guardians, the group began to discuss ways to educate the public regarding the potential effect this practice could have in Wisconsin's waters and groundwater. Studies have shown conventional wastewater treatment operations do not totally remove these contaminants. Minute traces of pharmaceuticals are being found in some of the nation's waterways.

Therefore, this team, consisting of Dr. Borchardt, water and wastewater utility staff, medical and pharmaceutical personnel, and concerned citizens set out to determine the most proper method of disposal. The method of solid waste disposal was not the best option either, since, in a landfill, they could become incorporated in the leachate and ultimately end up in a wastewater treatment plant. We began by contacting the USEPA and Wisconsin Department of Natural Resources officials, and local experts. All agreed that flushing and landfill disposal were not viable options, yet that is current practice and there are no regulations against using these options. How could we educate the public to use the proper disposal method when we were offered inconclusive options? Next, we met with local clinic and pharmacy officials. Perhaps they could receive the unused pharmaceuticals back from the user. Still no help. They informed us controlled pharmaceuticals could only be possessed by the patient for whom they were prescribed.

With no solid answers forthcoming, we wondered if we couldn't present the public with the opportunity to dispose of their unused pharmaceuticals in an environmentally friendly manner by offering them a "take-back" program. Initially, we learned about the requirements for receiving and handling controlled and non-controlled substances. Only law enforcement or certified DEA handlers could receive these substances and they must be transported by a certified solid waste handler. This would also require a proper "chain of custody" plan.

Included in our group was the coordinator for the county's Clean Sweep Program. She offered to assist by coordinating a Pharmaceutical Take-Back Program to be held in conjunction with the upcoming Clean Sweep Day at the Central Wisconsin State Fairgrounds in Marshfield. Household and farm hazardous waste are brought to this location on this day and are disposed of

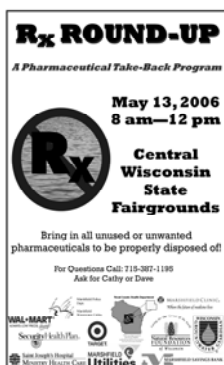
by Veolia Environmental Services, a certified solid waste disposal firm. A best guesstimate was that we may receive about 500 pounds of uncontrolled pharmaceuticals, and about 30 barrel gallons of controlled pharmaceuticals. The solid waste transporter estimated the disposal cost to be approximately \$10,000 including transport to an approved out-of-state solid waste incinerator facility. Our team then canvassed the community for donations to cover the cost and received the required commitment amount from water and wastewater utilities, medical facilities, and local banks and businesses, among others.



Now we're ready! Oh...not so fast! As we sought DEA approval, they would not approve the transport of the substances we received across state lines and they could only be transported by law enforcement officers. Also, law enforcement officers had to be present during all hours of the collection. Back to the drawing board! Finally, with the cooperation of our local Police Department, they found an approved hazardous waste incinerator, at an undisclosed site, that would receive the pharmaceuticals and the Police Department volunteered their staff to transport the items there and to be present during the collection.

On May 13, 2006, the City of Marshfield held the first ever in the State of Wisconsin Pharmaceutical Take-Back Program. The day proceeded smoothly with Groundwater Guardians, medical and pharmacy employees, and police officers donating their time for participant registration, pharmaceutical sorting, and law enforcement observation of the day's activities. Usually, there were about 10 cars waiting in line to dispose of their unused pharmaceuticals, and household and farm hazardous wastes. At day's end, a total of 418 pounds of uncontrolled pharmaceuticals, and (3) three-gallon containers of controlled pharmaceuticals were collected. They were transported to the incinerator by the law enforcement officers. Without having to transport the items out-of-state, the total cost of the program was less than half of the \$10,000 original estimate.

Even though the group's initial goal was to educate the public, this program succeeded in creating an even higher level of public awareness and environmental protection. The whole team was pleased with the volunteer efforts of the medical and pharmacy personnel involved, the financial support received, and the cooperation of law enforcement personnel who made the event successful. Its success was measured by keeping nearly 500 pounds of pharmaceuticals out of the city's wastewater stream, and, in turn, protecting and preserving the water resource quality around the City of Marshfield. Through this increased public awareness about our program, we look forward to even greater successes in the future. ζ



NEW Board of Directors Election Procedure!

AROW will begin accepting mail-in ballots for the upcoming 2007 Board of Director elections. All eligible members will receive ballots in the mail by January 11, 2007. The ballots will include detailed instructions for completing your ballot, but basically members may either complete and returned the ballot in the mail per the stated deadline, or bring it to the Annual Meeting when the election is held at the Conference in Appleton in February, 2007. There will be five Board positions available in 2007.

Below is the current list of candidates, thank you all for your interest!

Sue Gau - Outagamie County

Sue has served on the AROW Board of Directors for the past six years. During that time she was instrumental in developing the Hazardous & Special Waste Working Group. She was also involved in the creation of the AROW sponsored annual HAZWOPER Refresher course and the Chemistry for the Non-Chemist Course. Sue has more than 18 years of diversified experience in the environmental field. She is currently the Outagamie County Recycling Coordinator. In this position, her responsibilities include the coordination and continuous improvement of the county recycling program to include collection, transportation, processing, marketing of materials and public education. If re-elected to the Board, Sue will continue to look for opportunities to expand AROW's services to its members and continue to explore methods for obtaining funds for the organization.



Jeff Gloyd - La Crosse County

Jeff has been manager of the La Crosse County Household Hazardous Materials program since the program's inception in 2003. During the first three years of operation, Jeff has worked diligently to maintain one of the most efficient and cost effective programs in the upper Midwest. The program was acknowledged by the North American Hazardous Materials Management Association with the awarding of the 2004 "Best New Program" award. In addition, the program has received four other national, regional, and local awards. Jeff developed a radio branding campaign that has been recognized nationally and presented at a national hazardous waste conference and at the MPCA annual conference. Jeff is also active in working with the AROW Hazardous and Special Waste Workgroup and was instrumental in suggesting meaningful upgrading in the DATCP Clean Sweep grant program. Jeff's role is much more than just manager of a hazardous waste program. He also acts as a regional HHW and recycling education resource and provides educational tours and presentations to dozens of school groups, civic organizations, and governmental bodies annually.



Jennifer Havens - St. Croix County.

Jennifer is the Recycling Specialist for St. Croix County, a position she has held for the past 3 1/2 years. Before coming to St. Croix County, Jennifer was a Pollution Control Specialist with the State of Minnesota. She graduated from the University of Wisconsin-Madison in 1998 with a BS in Biological Aspects of Conservation and a Certificate in Environmental Studies. She also received her Masters in Management in 2003 from the College of St. Scholastica. Additionally, Jennifer is the Vice-President of the Midwest Recycling Association and active in her local schools, teaching recycling and worm composting to students. Her job duties include coordinating the county recycling program, hazardous waste collection program and other special waste recycling projects. Jennifer's interest in AROW is to bring her local background and experience in recycling, solid waste, composting and hazardous waste together with others throughout the state to impact recycling at the state level.



Mark Heal - Veolia ES Technical Solutions L.L.C.

Mark is an Account Manger for Veolia ES Technical Solutions Menomonee Falls, WI. Mark has been in the Environmental field for over 19 years. He has worked with the State of Wisconsin Clean Sweep program dating back to 1988. Mark has been a member of the Hazardous & Special Waste Work Group of AROW since its inception in April of 2001. Mark is a current member of Federation of Environmental Technologists, Inc. (FET). He is knowledgeable in Federal (EPA) and State (DNR) regulations concerning the proper identification, segregation, packaging and disposal of Hazardous and Special Wastes. Mark has worked with municipalities throughout the State in providing Clean Sweep Services. He is a strong proponent of conserving our resources believing in the Disposal Hierarchy of Reuse, Recycle, Fuel Blend, Treatment, Incineration, Landfill. Mark has a Bachelor of Science Degree from University of Wisconsin-La Crosse.



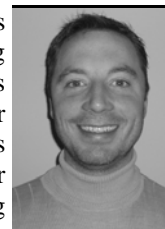
Laura Krist - Jacobus Environmental Services

Laura has worked for Jacobus Environmental Services for the past 12 years as a Territory Manager. Her main duty is managing the Kimberly used oil facility for Jacobus. The second biggest part of her job is helping customers understand their petroleum wastes and how they can properly recycle them. Ms. Krist is also involved with selling, compliance, safety, and training for Jacobus Environmental. She is a member of NORA (National Oil Recyclers Association), FET, and AROW. Laura represented AROW on the Oil Absorbent Materials Committee for the Wisconsin Department of Commerce during 2004 and 2005. Prior to working for Jacobus she worked for the Wisconsin DNR in the drinking water division and has worked with both the public and private sectors, including private high capacity wells and public municipalities.



Adam Leisten, CHMM - Pollution Control Industries

Adam has over 10 years of Hazardous Waste Management experience: ranging from Lap Pack Field Technicians work with Superior Special Services to Environmental Manager for one of the Midwest's large job shop Plating Facilities, SK Williams Co, dealing with regulatory personnel on local, state and deferral levels. He now provides services to customers throughout the Midwest in need of Hazardous Waste Disposal services as a Territory Manager of Pollution Control Industries. He has seen many changes come about over the years where traditional hazardous waste streams have been transformed into valuable products. For the past three years, he has been an active member with the AROW HHW Workgroup and offers a great network of contacts that share valuable information regarding programs to help eliminate and reduce hazardous wastes from our environment.



Brian Panzer - City of Marshfield

Brian's educational background is in civil engineering and criminal psychology with a degree in civil engineering. Brian is an alumnus of the University of Wisconsin Marshfield/Wood County, University of Wisconsin – Eau Claire and Mid State Technical College. Brian's post college career began with the Wisconsin Department of Transportation in 1981. In 1984, he accepted a position with the City of Marshfield as Assistant Street Superintendent. He worked in that position until 1989 when he was appointed Street Superintendent/City Forester. In 1991, the title of Recycling Coordinator was added to his job description at which time he began the process of implementing the City's recycling program. Over the last fifteen years, we have developed a very successful and comprehensive recycling program for the City of Marshfield which is accomplished entirely through contracted services with contract development and oversight done by Brian and his staff. The City has been able to intertwine its recycling program with its forestry operations in a public education format which has increased public awareness and involvement in both programs. Brian has always been an advocate of being proactive as it relates to tasks or programs and adopted this attitude in the initial development of his recycling program and he continues to seek improvements in the City's program through interaction with other government entities and organizations such as AROW. Brian feels he can contribute, through his years of experience in the recycling field, to the members of AROW as an AROW board member.



Jennifer Semrau - Winnebago County

Jennifer has been with Winnebago County as the Recycling Specialist since 1999. During the past seven years her job has changed and evolved with new challenges and responsibilities. As a result, her role now includes managing the County's recycling, hazardous waste and transfer station operations. Jennifer has served as President of the Northeast Wisconsin Cooperative Marketing Group since 2002. Each year this group puts on the annual Waupaca conference in October and in 2007 plans to partner with WCSWMA for the conference. In addition, Jennifer has been an active member of the AROW Hazardous and Special Waste Workgroup since its inception. In 2005, Jennifer was elected to the AROW Board of Directors, where she served as Treasurer. Being on the Board has given her an education on the time and work it takes to make AROW the strong, statewide recycling organization that it is; and despite this knowledge (ha!) she is seeking the opportunity to serve another term on the AROW Board. Prior to joining Winnebago County, Jennifer worked in Madison for the DNR's Bureau of Waste Management and the Recycling Market Development Board. Jennifer has a Bachelor's Degree in Environmental Policy and Planning from UW-Green Bay. Personally, Jennifer is the proud mom of a one and half year old daughter, Allison and a National Exercise Trainers Association (NETA) certified group aerobics instructor, teaching water aerobics two to three nights a week.



Please Note! In order to save resources beginning in the spring of 2007 future issues of the AROW newsletter will be sent via email unless otherwise requested. If you wish to continue receiving a paper copy of the newsletter, please contact us! ζ

(Continued from page 2) **Reversing Decades of Bad Advice**

pills, patches or bottles of liquid. The vast majority were pills. All of the medications collected were destroyed, incinerated at licensed facilities.

What's next?

Education, education, education! It's amazing how many people don't know that you should never flush or pour old meds down the drain. At the same time, people need to know why medicine collections are important and why they should care.

The collections are not cheap, but until federal laws change, collections are the only option we have to properly dispose of these drugs. Our other option is to ignore the early symptoms before all the science is finished and possibly have to take a dose of medicine down the road that we do not like. ζ



Serving communities throughout
Walworth, Jefferson, Rock, Waukesha
and Kenosha Counties

Our facility located in Whitewater, Wisconsin provides customers with single stream recycling.

Single stream recycling:

- Takes Residents Less Time and Effort
- Encourages More Recycling
- Cart System Eliminates Trash Day Clutter
- New Containers Discourage Identity Theft, Prevent Animal Invasions, Reduce Driver Injury, Look Neat, and Hold More

For local details, check our website at www.johnsdisposal.com

For more information, call **Johns at 262-473-4700.**

To discuss your local recycling program with your community, call your municipal Public Works Department.

AROW Recycling Awards ~ CALL FOR ENTRIES ~

The Associated Recyclers of Wisconsin (AROW) is pleased to announce a call for entries for the 2007 AROW Recycling Awards. The awards recognize excellence in all aspects of recycling and reuse.

Nominate your program or someone else's which you feel represents an exemplary job in recycling.

Please submit Award nominations by January 4, 2007! The form and guidelines are available at www.arow-online.org The awards will be presented at the annual conference on February 22, 2007.

Catagories

Christy Dixon Recycler of the Year

An individual whose career demonstrates the highest professional standards in the recycling field (includes reuse and composting). Applicant may be from the public, private, or nonprofit sector.

Outstanding Achievement in Education

An individual or group that has excelled in environmental education, specifically related to sold waste and recycling. Applicant may be from the public, private, or nonprofit sector.

Outstanding Achievement in Recycling

An individual or group that has excelled with their recycling program. Applicant may be from the public, private or nonprofit sector.



care system. None of those 600 tons met international good donation guidelines and arrived with minimal to no coordination with local needs.

On a national level, both the US DEA and US EPA have held meetings and conferences to address a solution to unused patient medicine. A steady stream of news stories highlight local efforts across the country, including those in Florida, Indiana, Michigan, Minnesota, Massachusetts, Oregon, Vermont, and Washington, as well as Maine. Internationally, Australia, Finland, France, British Columbia, Ontario, and Quebec, among others, have current and ongoing programs to address this issue. In Sweden, the process of “eco-labeling” of pharmaceuticals has begun. Thousands of pounds, kilograms, even tons, have been safely removed from public circulation.

Yet, besides the legislation passed this past year in Maine, and pending legislation in several other states, there exists no active statewide or nationwide comprehensive unused drug disposal program. It is no longer possible, or prudent, to overlook the misuse and abuse of what is accumulating daily in our own medicine cabinets across the country. For the past year, a Registry of Unused Medicine has been operational in Houston, Texas, to help quantify this by now industrial sized problem.

“Take-backs” for the public have been held in Maine with limited publicity and more are pending. These programs, which allow the public to safely return their unused medicine, represent an opportunity for further public education, and professional awareness. While they certainly help to jumpstart the effort, they are limited by their capacity. These local programs can indeed begin the process but cannot alone keep up with the continued growing accumulation.

With the advent of Medicare Part D, and the resulting probable increase in mail order medications, several consequences have

been discussed. There will likely be more accumulation as there will be more pressure for long duration prescriptions to be delivered by mail-order pharmacies. In Maine, approximately \$1 million dollars was formerly reimbursed to the state from unused medicines. Medicare Part D effectively ended this reimbursement to the state. Without the new Prescription Drug Plans participating in the unused medicine return effort, those funds to the state will not be recovered. Therefore, starting January 1, 2006, there is an additional \$1 million dollars worth of medicine accumulating, per year in our medicine cabinets across the state.

Solving the problem would be a significant generational contribution for the future. Federal and state agencies, the pharmaceutical industry, health care insurers, the medical, pharmaceutical, and nursing professions, health care providers, caregivers, benefactors, foundations, and the public have an opportunity, and an obligation, to go beyond dialogues on returns. We can now move toward curtailing overdoses, and drug abuse, and needless emergency room visits. Maine has taken a first step forward. The TRIAD groups of the state and the organizations that have started collaborating with law enforcement to ensure safe disposal deserve all of our thanks and gratitude, and will need our continued support, funding, and encouragement. As this is being written, the Office of National Drug Control Policy released on June 1, the first ever Synthetic Drug Control Strategy, which states: “The Administration’s strategy in this area involves a closer partnership with the medical community, as well as a public education campaign. In 2006, the Administration will call together representatives of the medical and pharmaceutical communities to discuss the problem and to encourage medical professionals and pharmaceutical companies to take a leading role in educating patients as to the importance of quickly and safely disposing of unneeded medications.” Perhaps Maine’s step forward can lead to a national approach. ζ

AROW’s HAZWOPER REFRESHER COURSE

Wednesday, February 20, 2007

8:00 a.m. - 4:30 p.m.

FEE (Includes Lunch):

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Pharmaceutical Waste: A Pharmacists Perspective

Grace Welham, Pharm. D., Navitus Health Solutions

Household pharmaceutical waste is an emerging topic that is complex and touches regulations in several areas. Included in the various institutions enforcing these regulations are Drug Enforcement Administration (DEA), Environmental Protection Agency (EPA) and state Departments of Natural Resources (DNR), and states Boards of Pharmacy. Earlier this year, Wisconsin DNR wrote guidance for "Take-back" programs encouraging the proper disposal of pharmaceutical waste in Wisconsin.

DNR and EPA enforce the proper disposal of pharmaceutical waste. Currently, only institutional pharmaceutical waste is regulated, while household pharmaceutical waste is not. It is accepted that the best method of disposing of unused or expired medications is by incineration in a solid waste incinerator, unless the medication is a hazardous waste which should be incinerated in a hazardous waste incinerator. As this option is not available to most households, a common method used to dispose of pharmaceutical waste by flushing them or throwing them out as normal trash.

DEA and the states Boards of Pharmacy do not necessarily enforce the disposal of pharmaceutical waste, but they have a large influence on the day-to-day operations of a pharmacy and the actions of a pharmacist. A state Board of Pharmacy (in Wisconsin it is known as the Pharmacy Examining Board) is responsible for the licensure of pharmacists and pharmacies throughout the state. Rules and regulations are set forth by the Board of Pharmacy, and are important in protecting the safety of patients and pharmacists. The Boards of Pharmacy are also re-

sponsible for as disciplinary action when necessary. Wisconsin Rules and Regulations do not allow pharmacies to take medications back from patients, unless the drug was dispensed in error or there is a potential for harm to the patient. This rule prevents medications that may have been improperly cared for while in a patient's possession from re-entering the distribution stream.

DEA has set up a "closed system" where a controlled substance is tracked from the manufacturer to the patient, where each entity that possessed the medication is a DEA registrant, meaning they have a DEA issued license that allows them to purchase and distribute controlled substances. Once outside of the "closed system", the controlled substance cannot return. Exemptions are in place allowing law enforcement or military personnel acting in the line of duty to accept controlled substances from a non-registrant. The "closed system" does not allow a pharmacy to take controlled substances from patients in any circumstance. When a law enforcement agent is present, pharmacists are allowed to participate in take back programs.

Given the restrictions placed on pharmacies from several regulatory agencies, and in the interest of safety, take-back programs run by a waste hauler or reverse distributor are a logical option. Take-back programs may include a drug collection, or a mail-back program. Collections around the state and country are underway, and have been successful. Mail-back programs have received less attention, but would allow immediate and consistent removal of unused or expired medications from the home. ζ

Prescription Drug Abuse - An Increasing Concern

Wendy Mayr CADC III, Thedacare Behavioral Health

We wrench a knee in a backyard football game on a crisp fall Sunday afternoon. Still in pain on Monday, we make an appointment with our primary care physician and they prescribe Vicodin. The prescription is for 30 pills, 4 times daily for pain. It's from the doctor after all, what can the harm be? Plenty.

We are a country of pill takers-look at the barrage of advertisements for prescription drugs on the television, in magazines and even billboards. We are continuously told relief is just a swallow away. Prescription drug abuse is on the rise. Use usually starts out innocently enough. The medication isn't all used up and it gets thrown in a drawer or pushed to the back of the medicine chest. We can't throw it away-after all it's still good. So the next time we have an ache or pain, we reach for the prescription. But the medication doesn't just dull physical pain. We notice it also slows our breathing and heart rate, may make us drowsy or foggy and we care less about emotional stressors. It really is an all around kind of pain killer.

It's not just the pain killers, although they are the largest category of prescription drugs that are abused. Also included are tranquilizers and stimulants. While use of illicit substances

has either stayed the same or declined, the opposite is true for prescription medication misuse. More than 17% of adults over 60 abuse prescription drugs. Over the past decade and a half the number of teens and young adult abusers (ages 12-25) has grown five-fold from 400,000 in the mid eighties to two million in 2000. Another trend indicates girls from ages 12 to 17, are more likely than boys to use drugs non-medically. In 2000, more than 19 million prescriptions, mostly stimulants, were filled for ADHD (attention deficit hyperactivity disorder). This reflects a 72% increase since 1995. Drug use for tension and anxiety went up 50% in one year (700,000 in 1999 to 1 million in 2000).

As consumers we must challenge our drug taking behaviors and be our own advocate, along with a critical eye, evaluate our choices. We need to ask what kind of pain we are trying to treat and whether the directions on the label are being followed appropriately. We must be informed consumers and assist our health care providers in protecting ourselves from the dangers of misusing prescription medications. Just because it is prescribed doesn't mean it can't be harmful. ζ

(Continued from page 4) Basic Components of a Drug Collection

Law enforcement, pharmacists, etc. are not going to be available every day your facility or office is open. You have to run your collection as one or two day event and then shut it down. Hold your collection at a third party's location to distance yourself from the collection. This helps with advertising by creating excitement and prevents meds from trickling in to you on a regular basis after your collection is done. Work with your local law enforcement to see if you can refer residents to them outside of a collection day.

Depending on the size of your community and the scope of your education you're likely to get a couple hundred residents at a HHW collection. It is safe to assume similar participation in a drug collection. Expect about 15 – 20 meds weighing two pounds per person. These meds could be liquid, solid, salve, aerosol or injectable. They could be prescribed, over the counter, vitamins or herbal supplement.

As mentioned earlier many drugs on the market are not considered hazardous waste. This could be because new drugs are being produced faster than the EPA can evaluate them for hazardous waste characteristics. There are literally 100's of drugs on the market the EPA has not reviewed. Before you throw out or recommend to any to do the same remember it wasn't too long ago mercury, lead and PCBs were considered beneficial products and now businesses are forced to pay for massive clean ups. Drug disposal is relatively cheap. If you already have a contractor onsite to take collected meds have them take everything so you are not facing future liability. This is an important point to remember for your collection. The actual disposal cost will be quite small compared to other expenses so don't be afraid to do the responsible thing.

You might find yourself contacted by groups who collect unused meds and distribute them to third world countries. Working in hazardous waste you should immediately be skeptical of an operation that can not produce a detailed paper trail for your records. Not to say these groups are not reputable, but it's some-

thing you have to consider. Another factor is expired meds can not be dispensed. Many doctors have samples from drug companies that are expired and now the doctor is stuck with disposal because the drug company won't take them back. This same thing is well documented in Bosnia and after the tsunami in Indonesia where they are spending millions to billions of dollars to get rid of donated drugs they can't use. Remember the DEA's closed loop? You can't donate meds that are controlled substances either.

There are now only seven P-Listed drugs like epinephrine and nicotine. If a doctor or hospital disposes of a P-Listed drug they are almost certainly a Large Quantity Generator of hazardous waste and not eligible to participate in a HHW program. For this reason it's much easier to only take meds from residents. Recommend all non-residents contact an appropriate waste hauler. As a side note there is little crossover knowledge of hazardous waste regs in the medical field. There is a lot of illegal disposal of waste meds taking place because they are not familiar with these restrictions. The awareness you create with your collection will direct these "law breakers" to do things correctly. Be prepared to offer advice and referrals to those looking to get on track with a proper disposal program.

In conclusion the first call you need to make is to your local law enforcement agency. Once they are on board get your pharmacists lined up and the rest should just be details. ζ

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