

Pharmaceuticals

in our WATER CYCLE



The U.S. Environmental Protection Agency does not regulate them in our water. Instead, they are reviewing them as an emerging concern.



So how do they get in the water?

At each step along the way, trace amounts enter our water:



PRODUCTION

Last year the US pharmaceutical industry totaled \$328 billion – approximately 28% of the world total.

So where do they all go?

FACT:



Research led by Brunel University in London linked the feminisation of male fish downstream of wastewater treatment plants with the presence of oestrogenic compounds, such as the synthetic birth control compound 17 Alpha-ethinylestradiol.



DISTRIBUTION

They are provided to us as both as prescription drugs and sold over-the-counter.

In some places you can return unused drugs through safe-disposal and mail-back programmes.



FACT:



According to CNN in 2011 the average American filled 12 prescriptions.



PROPER DISPOSAL



EXCRETION

Only some of the drugs get absorbed. Unused remnants pass through the liver and kidneys and are excreted.

But most customers simply throw away or flush unused drugs. These, then, enter the local water supply.

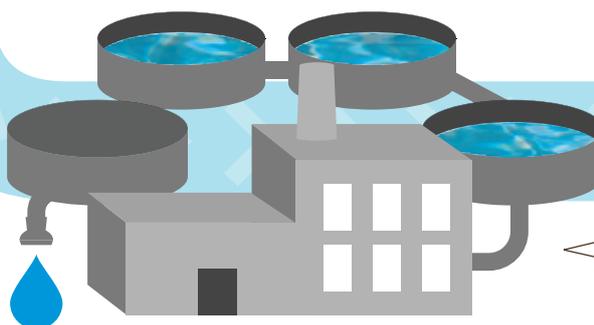


IMPROPER DISPOSAL

FACT:



It is estimated that approximately 75% unused drugs are simply thrown out or flushed.



SEWAGE TREATMENT

Waste water is sent to treatment plants to remove only regulated toxins - not pharma. Solid waste is used as fertilizer. Treated waste water re-enters the water cycle.



FARMING

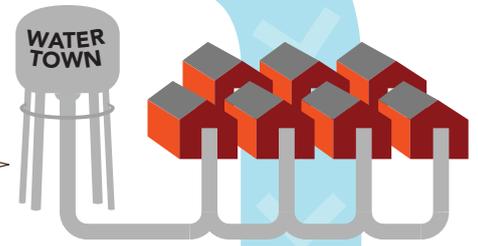
Livestock and Poultry: Meat with antibiotics and growth hormones are consumed and excreted. Run-off from manure fertilized crops and spills from manure storage lagoons contribute to pharma in the water cycle.

The EPA mandates water districts to remove only 91 regulated contaminants, ignoring a host of unregulated contaminants like MTBE, perchlorate, chromium-6, etc. and of course pharma.

FACT:



A study from the EPA found that an antibiotic that was going down the drains at a Pfizer, Inc., factory in Kalamazoo, MI, was still detectable after the water had been treated.



PUBLIC WATER TREATMENT



Drinking Water: Pharmaceutical chemicals and hormones (56 in total) have been detected in the drinking water of over 41 million Americans, and not all water systems have been tested.

FACT:



In addition to the consumption of drugs for health care, there is also significant consumption of illegal drugs due to both recreational consumption, drug addiction, and for enhancement of sporting performance, some of which all ends up in our water supply.

FACT:



The tricky toxicology required to answer all of the questions about these dilute but complex drug mixtures has yet to begin.

BIG FACTS ABOUT BIG PHARMA



\$808B in 2011 Americans pay more for prescription meds than anyone in the world. We are 28% of the world market.



The price of drugs is increasing **faster than anything else a patient pays for.**



The combined wealth of the top 5 pharmaceutical companies **outweigh GNP of sub-Saharan Africa.**



Big Pharma spends more on lobbying politicians and regulatory bodies **than any other industry.**



Pharmaceutical companies spend more on marketing than research: **Almost twice as much!**



Brand name meds often have a **1,000%** mark-up price

ALKAVIVA

The cost? Just pennies per gallon.

ULTRAWATER[®]

AlkaViva's UltraWater™ technology removes pharmaceuticals and other contaminants from your source water. Leaving the cleanest, Healthiest water you can find anywhere, for just pennies a gallon.

Contaminant-free | Antioxidant | Alkaline | Energized | Delicious