**Resistance to Drugs Effecting Us All**

“The greatest and most urgent global risk” (Robertson).

By Meghan Goddard on October 2, 2016

Often a topic haunting the medical world and instilling fear in families is the idea of our increase resistance to drugs. The future of resistance has been an alarm to the medical realm for years, but is quickly becoming prevalent now. On September 21, 2016, the United Nations met in New York to discuss the worsening issue of antimicrobial resistance and its risk to humans, animals, and agriculture. This is a current issue occurring in countries of all stages of development and goes beyond hospitals to farms that effects animals and humans. Resistance is built overtime through abuse or misuse of different antibiotics seen in agricultural treatments to crops and over prescription or vaccination in hospitals. In the agricultural world, different antimicrobials are used to protect us against harmful microorganisms, but in the process over exposes us. Deposits from these antibiotics can travel through the soil into the crops that we consume and the water we drink, proving this is an issue effecting the wellbeing of all (Robertson).

At the conference, the general assembly agreed each nation will develop an action plan on ways to cut back on antimicrobials in agriculture and decrease abuse of antibiotics in hospitals, based on a plan put together by the World Health Organization, the Food and Agriculture Organization, and the World Organization for Animal Health (Robertson).

Our resistance to medications against these microbes and harmful species increases chances of chronic infections and diminishes our ability to prevent these illnesses. The widespread idea of the dangers of resistance has come to many people’s attention with regards to flu shots. Recent studies have supported the claim that the annual flu shot is decreasing its benefits as a vaccine. The Center for Disease Control and Prevention (CDC) have already recommended physicians and parents halt the use of the nasal mist method of the influenza vaccine, as it has shown to be less to completely ineffective, a struggle for many patients and children. Even with the injection the repeated use of the vaccine, like the antimicrobials, can lead to a resistance by our bodies producing less and less antibodies produced each successive year we receive the vaccine. This presence a major conflict in that the United States is a huge proponent of promoting yearly flu shots, as seen in advertisements every time you step into a waiting room, local drug store, or school. These new studies contradict this nationwide support, leaving patients and parents hesitant. However, because the vaccination fights against up to four different strains of the virus, it is still helpful against at least one or two strains each year. The CDC reports this vaccine still decreases the chances of getting influenza for that given year by 70 to 90%, despite other health institutes claiming closer to 50% (Branswell, “Science of Flu Shots”). Either way, getting the injection version of the vaccine still prevents, at some extent, the risk of that awful winter flu we all rather avoid.

The rising issue of resistance is prevalent in widespread situations, like antimicrobials, and even effecting the common flu, and recently has been seen in more serious illnesses like sexually transmitted infections. Azithromycin and ceftriaxone, for example, are two drugs used to treat gonorrhea, yet the CDC has recently found many cases in Hawaii where the bacteria involved with the STI has been opposing treatments. A CDC director, Dr. Jonathan Mermin, warns that the bacteria has resisted many drugs before and this may be the last effort, putting hundreds of thousands of Americans at risk each year. So far these patients have been treated with repeat doses, but scientists fear these drugs will fail as new antibiotics are years away for medical use (Branswell, “Gonorrhea”).

The more resistance our immune systems build against medications and the more viruses or bacteria are able to resist our advanced medications, the more panic surfaces. Nevertheless, so do advances in research. To think of how far research has come to even have a vaccine for illnesses like influenza or HPV, or drugs to treat gonorrhea, is incredible. Although it may take a few years, a new drug for gonorrhea is on its way to the market, so we can have some trust in our advancements in research year after year (Branswell, “Gonnorhea”). Even though prevention of influenza decrease year after year, research continues to move forward, and I have hope they will develop a flu shot to keep up with the changing strands and decrease of antibodies. As Branswell states, “some protection is better than none” (Branswell, “Science of Flu Shots”). As a huge proponent of vaccines, I believe it is important to use what little preventions we have set in place. What is one shot for decreasing your risk of getting the flu by at least 50%, or a few extra doses of medications to treat a painful STI. However, it is also important to keep up with research and physicians’ or the CDC’s recommendations each year. In terms of antimicrobials, putting the pressure to reduce resistance entirely on agriculture creates a dangerous loop. To use less antimicrobials in agriculture means possible increase in spread of dangerous microorganisms that are now not being killed off. As Robertson explained, any reduction may help, failing to cut back on the overuse of antibiotics and pesticides will lead to threatening consequences (Robertson). It is important to follow as the UN forms a plan to improve the issue, to keep up with our vaccines, and to do the best to protect ourselves by staying updated with the evolving medical world.

Works Cited

Branswell, Helen. "A Guide to the Changing Science of Flu Shots." *STAT Public Health*. Scientific American, a division of nature America, Inc., 28 Sept. 2016. Web. 30 Nov. 2016.

Branswell, Helen. "Gonorrhea May Become Resistant to All Antibiotics Sooner Than Anticipated." *STAT Public Health*. Scientific American, a division of nature America, INC., 22 Sept. 2016. Web. 02 Oct. 2016.

Robertson, Sally, Bsc. "The UN General Assembly Call for Global Action to Tackle Antimicrobial Resistance." *News Medical*. AZoM.com, 22 Sept. 2016. Web. 01 Oct. 2016.