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Annotated Bibliography

Management of Antibiotic Resistant Bacteria, Dean C. Norman

This source suggests various methods for humans to use to manage the spread of antibiotic resistant bacteria both within institutions and within individuals. However, it identifies Long Term Care Facilities (LTCFs) as a main source of antibiotic resistant bacteria, as working inside one requires constant use of medicines and antibiotics to keep patients alive. It stresses general hygiene practices such as hand-washing, as well as more intricate practices such as prevention of antibiotic misuse. While identifying the benefits of using these practices outside of these medical facilities, the paper also speaks specifically about how antibiotic resistance is amplified in LTCFs, even presenting special strains of bacteria that have been known to thrive in LTCFs.

Potential of saprophage Diptera to acquire culturable livestock-associated antibiotic-resistant bacteria, S.M. Russell, et al.

This source brings in the effect that livestock have in propagating the spread of antibiotic resistant bacteria, as they measure the prevalence of certain strains of bacteria within the manure of pigs on a farm. They found that more than 75% of these pigs' manure carried the antibiotic resistant strain of the bacteria that the researchers were testing for, supporting the claim that use of antibiotics in livestock can create harmful bacteria, that if spread to humans, could exhibit increased antibiotic resistance and be harder to cure.

Multiple-Antibiotic Resistant Bacteria

In 1991, an evaluation of tuberculosis cases already saw that while bacteria are still susceptible to two of the three most commonly used drugs, most of the bacteria had developed some kind of resistance to at least one of the types of antibiotics used to combat this disease. Furthermore, suggesting the use of four different types of antibiotics in a regimen in order to combat this disease could lead to development of more resistance in the future.

A review of the influence of treatment strategies on antibiotic resistant bacteria and antibiotic resistance genes, Virender K. Sharma, et al.

This source suggests and evaluates different treatment methods of antibiotic resistant bacteria aside from antibiotics and outside of the human body, in locations where antibiotic resistant bacteria tend to develop, such as sewage systems or wastewater plants. These strategies include things like chlorination, UV irradiation, and ozonation, and the source covers the mechanisms of how these processes kill bacteria, bypassing their antibiotic resistance with the chemical properties utilized in these methods. However, these strategies are really only effective at killing bacteria outside the human body.