Antimicrobial Resistance and Inequality: Your food and You

Food animal production in the United States is highly concentrated. From 1992 to 2012, the number of pig farms in the US decreased by 67% while annual pig production increased by more than 8 million (*1*, *2*). Many more animals are now raised on fewer farms; for example, the number of farms raising 5,000 or more animals increased 3.6 times during that same time frame (*1*, *2*).

Large-scale food animal farms rely on antibiotics to prevent and treat disease, and until recently, to promote growth. As a result, most antibiotics sold in the United States each year are sold for use in food animals, not in humans (*3*). Routine antibiotic use in animals can select for drug-resistant bacteria. Specifically, bacteria that have developed or acquired genetic mechanisms that allow them to survive in the presence of antibiotics are able to multiply and become dominant.

Drug-resistant bacteria selected for in food animals can spread to nearby communities through air (*4*), water (*5*), direct contact with animals and/or animal waste (*6*), and via pests like rats (*7*) and flies (*8*). Heavy rainfall and flooding can lead to the run-off of bacteria-laden manure into the surrounding environment (*9*).

In some parts of the United States, concentrated animal farms are disproportionately located in communities that have the lowest income and the highest percentage of residents who identify as non-white (*10*). As heavy rainfall and flooding become more frequent due to climate change, these communities will be even more at risk of exposure to antibiotic resistance via the environment.

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