

Connecting Science and Society

Alternative solution to antimicrobial resistance in Colombia

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The World Health Organization considers the antimicrobial resistance as a threat to public health. It is so because: The frequency of superbugs (bacteria resistant to multiple antibiotics) increased over the last years, the high cost of last generation antibiotics, the use of them in industry and the lack of new antimicrobials development. Therefore, control of bacterial infections has become a major target of study in governments, health centers, and industry. As is evident, this problem spans multiple sectors including agriculture. In Colombia, *Salmonella* sp. (Bacteria that causes food poisoning) causes great economic losses in the poultry sector.

In order to develop alternatives to control these infections, therapy using phages (viruses that kill bacteria) has emerged as a solution. Since 2008, our laboratory at the University of the Andes, led by Martha J. Vives, has been studying native phages to control different kind of infections disease. However, we know that two of the major challenges that are presented in this therapy are: first, to understand the phage-bacteria interaction, and second, the gap between science and industry, which means the lack of innovation and entrepreneurship in Latin America, especially Colombia. Consequently, this work is aimed explore the use of bacteriophage therapy in Colombia and Latin America, solving the two main problems identified and modeled using *Salmonella* sp. in the poultry sector.