

**One World, One Health Podcast
Episode 18, Season 1- Transcript
Guest: Dr. Nicolas Fortané**

Carrots and Sticks - Weaning the Food Industry Off Antibiotics

Maggie Fox (0:01)

Hello and Welcome to One World One Health with the latest ideas to improve the health of our planet and its people. I'm Maggie Fox, planet Earth faces pollution, climate change and new and reemerging infectious diseases, and they're all linked. This podcast is brought to you by the One Health Trust with byte sized insights into ways to help.

In this episode, we're taking a look at how animal and human health are directly linked through the use of antibiotics in farm animals. We've looked at this issue in some other episodes of One World One Health and Today we're chatting with Dr. Nicolas Fortané, a senior researcher in Sociology at the French Institute for agricultural research, part of Paris Dauphine University.

Farmers routinely give antibiotics to their livestock partly to keep them healthy, but mostly because they help the animals grow faster and bigger. The World Health Organization has been asking the food industry to stop giving these powerful drugs to healthy animals but the practice remains routine. Nicolas is studying some of the reasons why this still goes on and what can be done about it.

Nicolas, thanks so much for joining us.

Nicolas Fortané (1:09)

Thank you so much for your invitation.

Maggie Fox (1:11)

First off, can you explain why antibiotics are so widely given to livestock?

Nicolas Fortané (1:17)

Well, it's kind of a long story. I mean, antibiotics have been given to animals in livestock production for more than half a century actually, from the late 40s, early 50s. Like the livestock industry started basically to put or to add antibiotics in the feed of production animals. And the objective at the very beginning was not actually medical, it was actually what we call antibiotics as growth promoters. So there was a role in the development of industrial agriculture to use more and more antibiotics because it was basically allowing the farmers to grow their animals quicker, starting with mostly the poultry and then the pig industry, and then all the bovine industry as well to come to this kind of practice.

Of course, antibiotics are not only used for that, and they are also used for medical purposes, to treat animal diseases because as you and me, animals can get sick, in particular, when they are raised in specific conditions where basically, the sanitary situation is a bit tricky when they're stuck in kind of, factory farms and so on. So basically, antibiotics are also given, of course, to treat animal diseases and to prevent animal diseases. Scientifics, and policymakers and so on, have realized from the 60s basically, and the 70s onwards, that using antimicrobials in livestock farming could produce what we call now antimicrobial resistance, which means basically, the development of resistant bacteria as a consequence of the use or the overuse of antibiotics in livestock farming, and then those resistant bacteria could be transmitted or disseminated to humans, through food environment or contact with animals and so on.

Maggie Fox (3:22)

So you have been looking specifically at how relationships among veterinarians, farmers, drug companies, the food industry and public officials affect antibiotic use. Can you tell us a little bit more about that research?

Nicolas Fortané (3:38)

Yes, of course, because, as you have noticed, I'm a sociologist or a social scientist, because of course, I work not only with sociologists, but also anthropologists, political scientists, geographers, and so on. And social sciences have not that much been used until very recently to try to apprehend and analyze the issue of antimicrobial resistance and more particularly the ultimate public use in livestock production. And so what we do believe, is that it is very important to understand how and why antimicrobials are still used basically, in livestock production. And for that, we need to understand much better the attitudes and behaviors, of the prescribers, of the farmers, but also all the strategies and I would say the structural factors of the livestock industry of the political institutions, how the markets, for example, the food markets, or the veterinary drug market work, to understand basically how all the system of livestock farming is working and it's keeping on pushing on the use of antimicrobials in farm animals within the European project, which is called HeartMath, which is an interdisciplinary project, to be honest, but where social science perspective as are kind of driving basically the theoretical and methodological perspective of the project, where basically we are trying to understand the different levels in dimension that are impacting the way ultimate computers are used, and also how through these different dimensions, we can develop strategies to keep reducing the use of antimicrobials.

So, a lot of the work we've done was dedicated to understanding how farmers are basically constrained and experienced and leave basically, and you'll have management. But also, as you mentioned, we've done a lot of work with the veterinarians, who are the prescribers and in some cases, the sellers of antimicrobials. So it was quite interesting to try to understand how veterinarians can move towards more preventive approaches to animal health, where basically, antimicrobials are used in a more prudent way in a more prudent approach, which means, of course, using much less antimicrobials.

Maggie Fox (6:16)

What are some of the incentives you can use to get the industry and farmers to use fewer antibiotics?

Nicolas Fortané (6:23)

Basically, for the farmers to be able to use less antibiotics, of course, they need very nice and efficient farm infrastructures, which requires most of the time important investment, you know: renewing the buildings, paying for more efficient feed for the animals, and so on.

Maggie Fox (6:50)

So they need help to use fewer antibiotics, because if you have intensive factory farms, they need to use them. So you need to help them make the facilities more spread out, less crowded.

Nicolas Fortané (7:01)

Yeah, that is one of the solutions. And also investing in buildings that provide a bit of biosecurity for animals and things like that. So yes, the livestock industry, the way it has developed, there was a development of those, what we call sometimes the factory farms, which are not very, you know, which were not that concerned about animal welfare or animal health and basically, the living conditions of the animals weren't optimized for using very few antibiotics. So that requires massive investments to change the technical structure or infrastructures of the systems.

Maggie Fox (7:49)

And then you also think some regulation has got to be required ?

Nicolas Fortané (7:53)

One of the issues of antimicrobial resistance is that we are also lacking new antibiotics. We kind of struggled to renew the antibiotic arsenal and that also requires massive investments in research and innovation, for universities in pharmaceutical industries, and so on, to look for innovation that can replace antibiotics. And that won't happen without important public investment for that.

Another aspect is, of course, to have a regulatory system that is able to monitor and control the use of antibiotics much more in a much finer and much more precise way there. There are still a lot of countries in the world, where we don't know much about how much antibiotics are used, how they're used, when they are used, if they are used or not. And we need as well a lot of public investments to create those monitoring systems, civilian systems that will help us basically to monitor our trajectory towards prudent use of antimicrobials.

Maggie Fox (9:14)

And as you said, the European Union has managed to reduce the use of antibiotics. Can you just tell us very briefly how they did that ? Was this a combination of carrots and sticks, regulations and incentives ?

Nicolas Fortané (9:28)

You know, each country has kind of a policy style, you know, like, depending on their history and political culture and so on. So, and it's kind of fascinating to observe that all those, you know, 8,10,12 Western European countries have achieved relatively similar results with sometimes very different toolkits. So in some countries, yes, public regulation, so basically, law enforcement and more constraint when needed was the key. In other countries, you know, compromising supporting the industry to, to basically support the farmers and vets has been basically the answer, so it depends. But of course, this cannot happen if there is not a massive public engagement towards this achievement.

Maggie Fox (10:27)

And, of course, this is a big reduction. But is that enough?

Nicolas Fortané (10:31)

Well, that's always the question. Of course, what is important to say, first, that it is unrealistic, or even would be foolish to consider that zero antibiotics should be the objective, because as I said, animals get sick, and they deserve to be treated when they're sick, you know, for animal rights, animal welfare, and so on. But, yes, we do believe that it is possible to go even further. And for that, it will require more precise monitoring and understanding on antimicrobial use that is left, you know ; which molecules are still being used, in which conditions at what time, by who ? because, of course, here we're talking about, you know, average figures, but we need to be more precise on which sector or which types of farms are still using more antibiotics than the others and why ?

You know, antimicrobial resistance is a global problem. So which means that it comes from all over the world, and every country, every farmer, every vet, should be involved basically, in this objective of, of reducing antimicrobials. However, European countries or North America don't have the same food system as southern countries, you know, land in Africa or southeast, Southeast Asia, and so on. So I do believe that it is very important to understand the specificity and the specific needs of each country. You know, it's a bit like with climate change, you know, we can't ask for the same contribution from everyone, because not everyone contributes in the same way to the global problem. And I do believe that mindsets with regard to the antimicrobial resistance global issue is not fully understood yet. And in some countries, in some African countries and some Southeast Asian countries, you know, they are not facing that much of an issue of excess antibiotics than an issue of lack of access to antibiotics. And it's been shown by some of our colleagues, including in the Roadmap project that I mentioned, because we are

also working in a couple of southern countries. That's shown that if we try to implement the same tools, the exact same tools with the same restrictions, and so on, in those countries, of course, we may reduce excessive antibiotics, but also access to antibiotics, which would have dramatic consequences for Animal Health and Welfare, but also food security in this country.

So we need to be much more clever at the global level not to basically impose our Northern or Western views and solution of the problem to countries where the problem is structured quite differently, and where basically, the support they need is not exactly the same as the one we have developed for our own settings.

Maggie Fox (13:58)

Nicolas. Thanks so much for taking the time to chat with us about this.

Nicolas Fortané (14:02)

Thank you very much again for your invitation. It's been a pleasure to chat with you today.

Maggie Fox (14:07)

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