



Title: Vet and Farmer prescribing

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- [Kim] Thank you for joining me for this session. We're going to be looking at the veterinary prescribing habits and farmer use of antibiotics on sheep and beef farms in the UK. I'm Kim Hamer. I'm a diplomat of the European College of Small Ruminant Health Management. And I currently work at the University of Glasgow for the Scottish Centre for Production Animal Health and Food Safety, where the majority of my work involves teaching undergraduates and post-graduates, doing some consultancy work, and clinical research. So I hope this session is helpful to you to your everyday practise and communication with farmers. And you're also welcome to contact me. If you have any questions or comments, my contact details are here on the bottom of this slide.

The objectives of this presentation are to help you think about your motives for antimicrobial prescribing, the motives of farmers for using antimicrobials, ways in which to look at the research that's being done that will help you engage in two-way conversations with farmers about antimicrobial use, and enable you to communicate about these things with your colleagues within your team practises.

So in order to set the scene, we need to talk a little bit about the parameters within which we work in the UK. Obviously, antibiotics are prescription only veterinary medicines, and although we still have some freedom no longer seen in other European countries to prescribe these drugs without a consultation, that said, it's within the constraints of the RCVS code of veterinary practise, which states that the animals must have been seen recently enough, or often enough for the veterinary surgeon to have personal knowledge of the condition of the animal, or current health status of the herd, or flock, to make a diagnosis and prescribe. And recent enough is down to the professional judgement of the veterinary surgeon themselves. So as such, we have the privilege of, and responsibility, to oversee the use of antimicrobials on our client's farms, in their livestock. But also we currently still have the right to share some of that responsibility with our clients by allowing them to hold certain products for use as they see fit. And if we think about the theory behind the advice that we're giving, we have a lot of scientific data and theory to back up the advice that we give to our farm clients.

Certainly we don't know everything, and there will be more advances in the future. However, of the best practise recommendations that are available, many of them now have been proven to be effective in reducing disease and the need for antimicrobial use. However, the rollout of these practises is relatively slow. There are obviously earlier adopters who are getting very good results from adopting these practises, but there is a bit of latency in the adoption by the majority of farmers. Certainly we need to not forget that progress has been made in reducing the sale of antibiotics for treatment of farm animals.

Since 2014, the rumour task force report shows that the sales have been reduced by half, which is definitely progress. And in order to make further changes, we need to shift our focus slightly away from the advice that we're giving, to how we give it. And in order to do that, and in order to encourage change, we need to understand ourselves and our motives for prescribing antimicrobials or not, as well as understanding our clients and what motivates them to use antimicrobials in the way they do. And in amongst this, we need to have some understanding of what's been shown by recent research into the social science of this area. Now, obviously we're not going to be able to cover all of the available literature on the social science of the farmer interactions, because it's a rapidly growing area. But we're going to focus on some of the very recent work in the sheep and beef sectors, and apply a couple of pertinent findings from other areas. We sort of have to consider the sheep and beef sectors a slightly special case compared to, say, pig and poultry sectors in the current state, because for many of these farms there's extremely limited veterinary input.

So our ability to influence practises on these farms is limited to discussions at the time of prescribing events and at the time of emergencies, when things can be a little bit rushed and fraught. But we have to make the most of these opportunities as and when we can. So we're going to start out by thinking about what influences us as vets. And to do this, we're going to look a little bit at some work by Charlotte Doidge et al, in which she persuaded 306 of us to complete a survey in which we were asked whether we would be likely to prescribe or not for a variety of non consultation prescription request incidents. And these incidents had varying circumstances for each decision. And the responses that we gave to each situation were analysed against the characteristic of us as vets, and the stated circumstances of each prescribing event.

- In this study, the relationship between the client and the vet appears to have the biggest impact on our willingness to prescribe. And so if the prescribing scenario stated that the vet had confidence in the farmer's judgement of the disease, then vets were statistically significantly more likely to prescribe antibiotics without a consultation. And other factors associated with the relationship between the vet and client included the depth of the relationship, and the length of the relationship. So vets were more willing to prescribe to longstanding clients, especially if that client had regular veterinary input on the farm. However, if the client put restraints on the vet's decision making by being unwilling to pay for a visit, vets felt pressured into prescribing, and were more likely to prescribe. And this has been seen previously in vet client relationships in the pig sector, where it was shown that there was a significant impact on the vet farmer relationships on veterinary decision making and pressure to prescribe. And that's not always been seen as a positive thing, as was shown by Coyne et al at 2014, 2016.

In other business sectors, it's been shown that trust is a central part of business client relationships, and building trust helps to improve influence on clients. So there is a, if we apply this across to vet farmer relationships, there is an argument to say that if we build trusting relationships with our clients, these could contribute to being able to have more effective communication about antimicrobial use, and have more influence on our client's behaviour, as it does for improving sales and retail businesses, as was shown by Morgan and Hunt in 1994. It's important to be aware of the influence that our colleagues have on us as well in terms of our prescribing, decision making. The knowledge of the fact that another vet had given the same prescription previously to the same farmer without a consultation made us more likely to give the prescription. And this was termed habitual use in the reporting paper, and it's thought to be influenced by less, or involve less conscious decision making in those cases.

On the other hand, having the presence of a small animal department within the practise appeared to decrease the likelihood of non consultant consultation prescribing by farm animal veterinarians, which suggests that there's a social influence of colleagues working in a different sector to ourselves being close at hand. The third thing that I've picked out from this paper is the impact of our own confidence in our knowledge of the condition for which the prescription is being requested. The majority of the vets responding to the survey spent the majority of their farm animal practise time working with cattle, and far less time working with sheep. And they were far more likely to prescribe antibiotics for the prevention of watery mouth in lambs than for pneumonia in calves. So there could potentially be a lack of exposure and a lack of confidence in their own knowledge of the alternative control measures for sheep conditions impacting on this. Another possibility is that at the time that this survey was undertaken, the prevention of watery mouth with oral antibiotics in lambs may have been considered more culturally acceptable, and seen as normal practise on many sheep farms.

Thankfully, the conversation around this has changed in recent years, but there is still some evidence that farmers considered this use of antibiotics slightly differently to other use of antibiotics on their farms. They sort of pigeonhole it separately, and so justify it. And there's some more work by Charlotte Doidge, which is published this year in 2021, which looks into that. Now I've picked out these three things from the results of this study because I hope that our conscious awareness of these things might help us to make more consciously aware decisions about our prescribing of antibiotics in the future.

This is a graphic from the 2019 Doidge et al paper, which highlights the statistically significant factors that were associated with increase in green, or decrease in red, prescribing of antimicrobials by vets. And it just makes interesting reading. Based on what we've just been looking at, I would ask you to just stop for a minute and have a think about what motivates you. When are you most likely to prescribe antibiotics without a consultation? What criteria have to be met for you to prescribe? Have you made a conscious decision about what those criteria actually are? So if we move on to thinking about our farm clients, again, I've selectively summarised some of the results from two other papers in which farmers were asked about their approach to antimicrobial use. One was based on a questionnaire sent out to beef farmers, and the other based on detailed interviews of both beef and sheep farmers. Again, the summary is selected with a view to the things that might influence our approach to discussing antimicrobial use on farms. And we know that farmers care a lot about animal welfare, often more than they get credit for, sometimes even more than we do. And we're the ones that know that, so we should give them credit for it and acknowledge it to them. Because they constantly strive to do a good job. They want to think of themselves as good farmers, and tied in with this self view appears to be the provision that they're allowed to make treatment decisions for common disease problems that they see on the farm without having to involve the vet. And also for many of these sheep and beef farmers, when they were questioned, although not all of them, many of them saw involving the vet in these cases and in their decision-making as a bit of a failure on their part. And alongside this, there's also sometimes the perception the vets are too busy to stop and talk about on-farm management productivity and disease prevention. And there was also a feeling that vets prescribe antibiotics quite easily. So they've reduced the requirement for reflection on the use of these products, and the management practises that lead to an increase in need for them. So we need to ask more questions, but in light of the fact that they are trying really hard. So we need to acknowledge the gains that they've already made, as many of the farmers that were interviewed had already started to improve by a security on their farms as a way of trying to reduce the need for additional treatments. And we need to know about those things before we start to suggest new changes. So we need to listen. It goes back to the old adage of listening twice as much as we talk.

Having said that farmers perceived an increased veterinary involvement as a failure, they did also put the responsibility onto vets to provide increased information about disease control and use of antimicrobials in order to help them reduce their antimicrobial use. So this is a bit of an impasse that we need to bridge by discussing with farmers what we have to offer in terms of preventative health advice without undermining their abilities and knowledge already. And these points about farmers being seen as good farmers and not having to call the vet too often, being allowed to make treatment decisions, also feed into farmers' desire to be seen positively and have a positive social standing. They worry about the public perception of having sick animals visible. And we'll talk a bit later about this desire for social acceptability, and how it can be used as a strong tool to encourage change. Some farmers can occasionally seem like they're quite conservative and resistant to this change, but there there's good reasons for this, particularly where things have been working well for them. And they don't want to risk the changes. Because there's so much at stake for them, including animal welfare, which we've talked about, as well as productivity, and so their livelihoods. But also the social standing we've discussed within the farming community, being seen as a good farmer. And during the interview process, farmers expressed concerns about two major areas. One was the potential detrimental effect of antimicrobial resistance on their farms, but also they expressed concern about the potential damage that could be done to animal welfare and animal health by reducing the use of antimicrobials below the current levels. So we need to be willing to acknowledge these concerns and worries, but also discuss the evidence that's available for the alternative preventative measures in terms of disease reduction, improving animal welfare, improving animal health status, and production rates. And while we're doing this, we need to be careful, obviously, with the language that we use, and trying to maintain the farmer's self view as a good farmer. Because as soon as you imply otherwise, they are likely to become defensive and need to find excuses to excuse themselves from our suggestions. So we need to talk about change rather than improvement, et cetera.

During the interview processes, the farmers also were asked about the rumour targets for reducing antimicrobial use by 10%. And they talked about struggling to understand the measures that were being used for this, but also not really knowing what their current levels of use were, and finding it difficult to know whether they could reduce use, and what that would mean for them. So part of our discussions need to include education around the measures that can be taken, as well as helping them to understand what antimicrobial resistance is. There's some evidence from the dairy sector that they struggle to describe what antimicrobial resistance is, how it develops, and how it spreads. So we have some educating to do in order to help our farmers on this journey.

Now, take another pause and think about your clients this time. So think about three of your farming clients that you know quite well. Think about what you think motivates them, what you think annoys them, and also who's advice you think they listen to the most, and why you think they listen to that person. So what is reassuring that comes out of the papers we reviewed here, and what many of you will already be aware of, is that we have so much in common with our farming clients. We all have a desire to do a good job for the sake of our own self images, our social standings, and for the sake of animal welfare, primarily, but also for the sake of making sure that our farm clients' businesses can succeed and be profitable, and the veterinary practises in which we work succeed and are profitable. Also we are exposed to, or have at the same access to, media outlets. So getting, we're getting the same messages about antimicrobial resistance, as well as some of the bad press for farmers and vets on antimicrobial use. And we can use these as conversation starters, or something to bond over, because we've got a shared responsibility for antimicrobial use on farms, and we need to build trusting relationships to share that responsibility effectively. We need to think about how we look at a way forward and apply it in our day-to-day lives. And the first thing I wanted to say was something

I've called landscape vetting. And it's just the everyday things that we do when we're going to see individual animals, like looking very carefully at the environment the animal's living in, looking at that group management, and also looking at the rest of the group for patterns. And it's something that we as vet schools, and you as vets with EMS students and new grads that you're training up, need to emphasise and communicate more and more with those young vets so that it becomes second nature to them the way it is to us with a bit more experience. And the trouble is, it's something that we do automatically, looking at the environment and the conversations that we know we've had in the past with farmers, so we do know a bit more about the farm management. So we just need to be quicker to communicate those things to our young vets when they're seeing practise with us and when we're training them.

So if we think about our individual interactions with farmers on a day-to-day basis, when you think about who our farmers are, in the Western world, we all like to think of ourselves as individuals leading the pack from the front, and farmers and vets are no different. But as human beings we have a strong desire to be heard, and have our views and concerns validated. So as vets, we engage with that desire in our clients every day by taking full histories, and listening to and acknowledging our client's concerns. And we can, a lot of us are doing this more, but we can do it more by asking more questions at consultation, prescribing events, and get by getting to know what motivates them, what worries our clients.

In Grant et al 2018 study, they showed that one-to-one vet farmer advisory sessions were most effective at encouraging farmers to change lameness treatment practises. So building these relationships can lead to powerful ways of promoting best practise and management change. There's also quite an interesting Dutch study with dairy farmers that have been considered hard to reach by their vets when they were trying to disseminate knowledge about udder health. And within the study, they recognised four different categories of character amongst these farmers, and the need to communicate differently with each of these groups. So it's really important that we get to know our farmers as the first step towards effective communication with them. So for individual farmers, also using motivational interviewing skills is valuable, and they will be covered in other areas of the RCVS knowledge farm vet champions materials. But also with a view to maximising the efficiency of our time, and reaching the most farmers that we can, there's also growing evidence for the efficacy of veterinary facilitated farmer discussion groups for encouraging improved practise. And I've cited some of those here, and it's worth having a look at them. Particularly at Morgans et al 2021, it's a very interesting read. And these group situations can help farmers to support each other with the difficulties of farming, and with the practicalities of taking risks and making changes. They also can enable farmers to benchmark themselves against their local peers, as well as against national levels and targets so that they have an idea of what is possible on their types of farms. And discussions and farm visits can also encourage the sharing of practical solutions to challenges that they face, as well as encouraging farmers to be responsible, because they want to be seen as good farmers by each other. We're then harnessing that social pressure to encourage these farmers to up their game. Just as an aside, if there's something else that came out of the studies that have been summarised in this talk, there is some evidence that there's confusion among farmers around the difference between reducing antimicrobial use and the need for responsible use of antimicrobials in diseased animals.

So we need to simplify the messages that we're giving to make them easy to apply when things get stressful on farm. So basically we need to emphasise that treatment is good where it's needed, but blanket use of antibiotics for prevention in whole groups is bad. There is obviously a caveat to this, that when there's outbreaks of disease in groups of animals, sometimes a group treatment is

justified, but that's a decision that farmers shouldn't have to make on their own. They should be doing that in consultation with a vet. So, yeah, focusing on the treatment is good, and blanket prophylactic treatment is bad. And we have a little bit of a temptation among us as vets to focus on what shouldn't be done in terms of antimicrobial use, and for farmers to focus on what they can't do practically in terms of alternatives. So we need to try and shift the conversation towards what can be done, focus on the positives, focusing on where antibiotics should and can be used responsibly, and what can be done as alternatives to prevent disease, and how those alternatives have the potential to improve animal welfare and productivity as well as reduce the need for microbial use. So focusing on what can be done, what's practical, what's feasible, and taking small steps to allow farmers to build confidence in making these changes can already help in the promotion of best practise.

So based on what we've been discussing, for setting targets for yourself in the next few months, you can choose your own targets based on the situation in which you are in your practise, or in your career. So many of you will already be running farmer discussion groups, and having useful conversations about antimicrobial use with clients. And so the red coded targets might apply best to you. Whereas if you recently graduated, or you just moved to a new practise, or the practise you're in hasn't had much focus on antimicrobial use before, then the amber targets might be more appropriate. And these can obviously be adjusted to make them appropriate to your situation, so I'll let you pick and choose and adjust them as you see fit. For the conversations with farmers about antimicrobial use, it's useful to include calculating annual mix per PCU for their farm and looking at where the most antibiotics are being used, so that you can have an informed conversation about that. So, good luck. I hope that you have some very productive conversations in the next few months. Don't be disheartened if a few of them lead nowhere. We have to just keep, keep on trying. So good luck.

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