**Application**

**In the United Kingdom (UK) anthelmintics can be prescribed by officially recognised, qualified individuals, known as SQPs (Suitably Qualified Persons) in addition to veterinarians. This remains controversial, with some stakeholders concerned that SQPs are not well-placed to address flock management as a veterinarian would, particularly due to the threat of anthelmintic resistance (AR).**

**We report the fundamental similarities in hurdles faced by veterinarians and SQPs in changing farmer expectation and behaviour in relation to anthelmintic use. Addressing these hurdles should improve anthelmintic stewardship, regardless of who prescribes them.**

**Introduction**

**Endo- and ectoparasites negatively impact the productivity and health of sheep globally, and have been controlled through the widespread use of anthelmintics (Cabaret and Nicourt, 2024). Rising AR is rapidly eroding anthelmintics’ power to protect sheep health and welfare resulting in sub-optimal productivity, with its economic and environmental impact. This environmental impact is compounded by the direct negative consequences profligate of anthelmintic use. Guidance has been produced with the aim of preserving and prolonging the efficacy of the available anthelmintics. The SCOPS (Sustainable Control of Parasites in Sheep) group, in the UK, have provided, and regularly updated, a technical manual with information on best-practice since 1999 (Stubbings et al., 2020). This guidance focuses on management strategies to reduce the need for treatments and optimise the efficacy of anthelmintics when indicated.**

**All authorised medicines for sheep parasite control in the UK fall under the POM-VPS category. This should provide a control point in the supply of these medicines to farmers, as they can only be prescribed and dispensed, not simply sold, by a veterinarian, pharmacist, or an SQP trained and authorised to prescribe livestock medicines. Prescribing anthelmintics for sheep, in the UK, includes a requirement for prescribers to follow the SCOPS guidance. Despite such guidance and prescribing requirements, the research literature suggests that farmers continue to fail to optimise anthelmintic use (McIntyre et al., 2023; Williams et al., 2024). We report here on anthelmintic prescribing, from the prescribers’ viewpoint, with a focus on barriers to better stewardship, and areas of common concern, and difference, between veterinarians and SQPs.**

**Materials and Methods**

**As part of a wider PhD research programme utilising mixed methods to look at medicine stewardship in the Northern Irish (NI) sheep flock, an analysis of 52 farmers’ medicine records, and interviews with veterinarians, SQPs, farmers and other stakeholders were undertaken, following granting of ethical approval. Interviews were followed by a series of discussion groups. Where possible, and with consent, interviews and discussion groups were electronically recorded and transcribed. Contemporaneous notes were made for the remaining interviews and discussions. Transcripts and notes were then analysed and thematically coded, and exemplar quotes identified as has previously been reported in detail (Crawford et al., 2024).**

**Results**

**Analysis of farmers’ medicine records revealed that only 12 (23%) farmers in the sample (n=52) bought more than one litre of anthelmintic from their veterinarian, suggesting the overwhelming majority of anthelmintic was purchased from non-veterinarian sources. Records also showed that sheep farmers who did not own cattle, purchased combination flukicide/wormers (clorsulon 10mg/ml, ivermectin 100mg/ml) licensed only for cattle from their veterinarian and from farm merchants. One farm record included a substantial quantity of an abamectin-based anthelmintic which was not authorised in NI, but was authorised in the neighbouring Republic of Ireland. Anthelmintic products containing an adult flukicide were identified in the records being purchased throughout the calendar year, contrary to SCOPS guidance.**

**Interviews and the subsequent discussion groups highlighted farmers sourcing anthelmintics from agricultural merchants, rather than veterinarians, on the basis of product cost; a viewpoint veterinarian and SQPs agreed on. Farmers reported following a calendar-based approach to the timing of anthelmintic treatments or using visual cues to initiate treatment of assumed parasite infestations in their sheep. Testing was generally only undertaken following a failure to respond to one or more anthelmintic treatment.**

**There was a difference between veterinarians and SQPs in their perception of who had the best knowledge and experience base to advise farmers on parasite control. Veterinarians were keen to take the lead on advice (without charging the farmer), despite knowing the farmer would purchase their anthelmintic elsewhere. SQPs felt that their focus on this narrower branch of veterinary medicine left them with greater depth and experience for advising farmers. SQPs recognised the benefits of testing prior to anthelmintic treatment, highlighting differentiating lice from scab and Nematodirus from coccidia to better tailor treatment.**

**Challenging farmers’ ideas and suboptimal practices was a common theme among SQPs and veterinarians. Specific areas prescribers challenged included farmers’ assumptions about the cause of observed signs in their sheep, pre-determined ideas of the product they wanted, and their desire to treat all ewes and lambs. Both prescriber groups identified some farmers had no interest in, or ignored, many of the best practice management recommendations to maintain anthelmintic efficacy:**

**‘As soon as they hear it [faecal sample] has to be sent off to the lab, and there is this charge, they respond, ‘No, just give me a bottle of something and I'll just put it down their throat.’ SQP04**

**One veterinarian described how, even when offering free dose efficacy testing, farmers would not bring in a post-treatment sample. Similarly, SQPs found farmers uninterested in (free) dosing equipment calibration. Finally, both groups identified poor record-keeping among farmers, and their habit of sourcing medicines from multiple sources as hindering good prescribing. This they reported frequently left them lacking a clear understanding of what treatments sheep had received historically, when they were approached to prescribe subsequent anthelmintics.**

**Conclusions**

**While examples of poor prescribing were identified in both SQP and veterinarian prescribing channels, there was clear will and ambition among the prescribers participating in this study to improve anthelmintics stewardship. An ongoing, coordinated effort to achieve this improvement is needed; focused on engaging farmers to change the attitudes and behaviours that prescribers here have identified as barriers to enhanced anthelmintic stewardship.**

**References**

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