Development of a Validated Lameness Control Plan for Sheep Flocks

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Background and Objectives

- FAWC (2011) proposed that the UK flock should target reducing the prevalence of lameness to 2% by 2021
- Correct diagnosis of the cause of lameness, together with correct treatment, can reduce levels to <2% (Wassink et al., 2010)
- We propose the development and testing of a lameness control plan (LCP) that can be adapted to suit various management systems

Plan Design

- Farms have plans created to suit individual circumstances that includes High, Medium, and Low Impact recommendations:
  - **High Impact -** Strong evidence to support the effectiveness at reducing lameness
  - **Medium Impact -** Some evidence to support the effectiveness at reducing lameness OR may not be necessary/effective in all situations
  - **Low Impact -** Very little or inconclusive evidence to support the effectiveness at reducing lameness
- Recommendations focus on the key areas of accurate diagnosis, prompt treatment, and effective prevention

Implementation and Assessment

- Initial Assessment
  - Collect data on current management practices, additional farm enterprises, and other work obligations
  - Flock locomotion scoring
- Plan Delivery
  - Build LCP to implement new recommendations or adjust current practices
  - Deliver to farmer and discuss best practices
  - Farmer to keep and submit records of all lameness treatments (Fig.1)
- Continuous Assessment
  - Every 3 months:
    - ✓ Flock locomotion scoring
    - ✓ Assess any changes to severity or lameness percentage
  - Every 6 months:
    - ✓ Collect data on management practices
    - ✓ Address farmer feedback and discuss concerns
    - ✓ Make adjustments to LCP as needed
  - Every 12 months:
    - ✓ Analyse data and report findings
    - ✓ Discuss any planned changes for next year

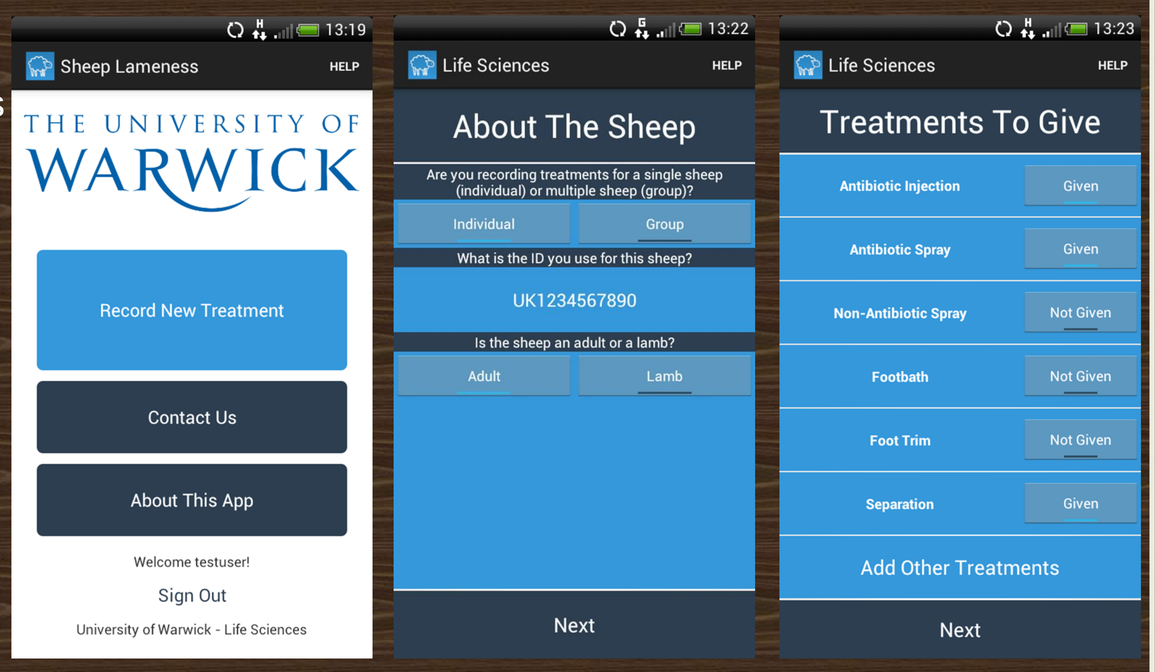

Figure 1. Specific app designed for treatment recording and data submission

Year 1

- Recruitment of 46 farmers (23 treatment, 23 control) based on:
  - Flock size of 100-600 breeding ewes
  - Average reported lameness ≥5%
- Treatment farms underwent Initial Assessment and received LCPs from Visit 1 (Aug-Oct 2014), then onto the schedule outlined above
- Locomotion scores collected from control farms but no advice given

Year 2

- Control farms underwent Initial Assessment at Visit 3 and received LCPs from Apr-May 2015, then onto the schedule outlined above
- Annual reviews were delivered to all farms at Visit 5 (Aug-Oct 2015)
- Flock locomotion scoring and adjustments to the LCPs are ongoing

Results to Date

- Initial data shows a decrease in average lameness levels after implementation of an LCP (Fig.2)
  - The largest change seen in the treatment group
  - Both groups show similar progression from their LCP start dates
  - Mean lameness levels increased between Visits 1-2 and 5-6; We hypothesise this is a seasonal effect related to weather and the choice housing of sheep during winter
- Within a year the number of farms with ≥10% lameness decreased by two-thirds, and some farmers were able to reach the ≤2%goal (Fig.3)

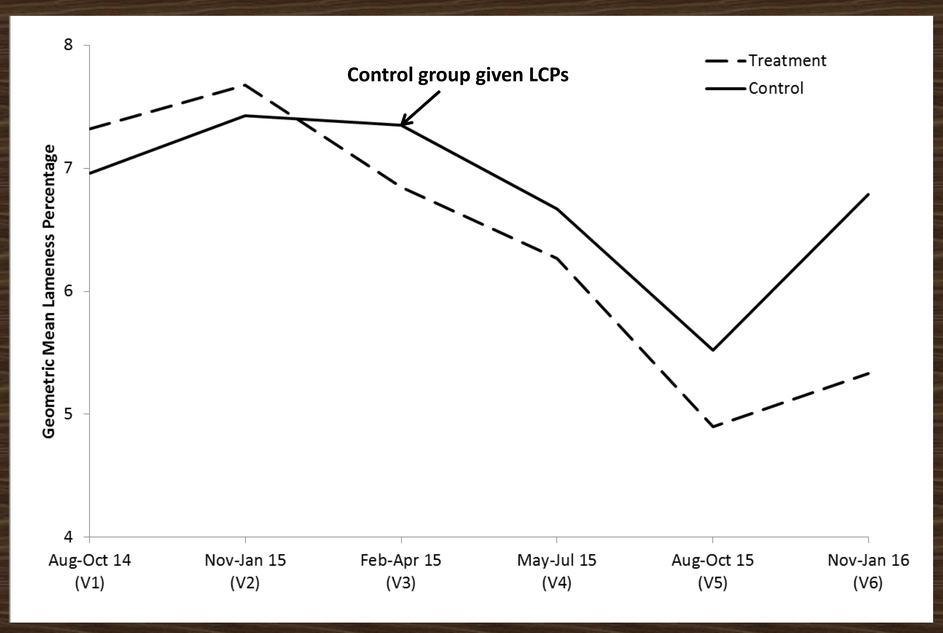

Figure 2. Lameness percentage by group over time

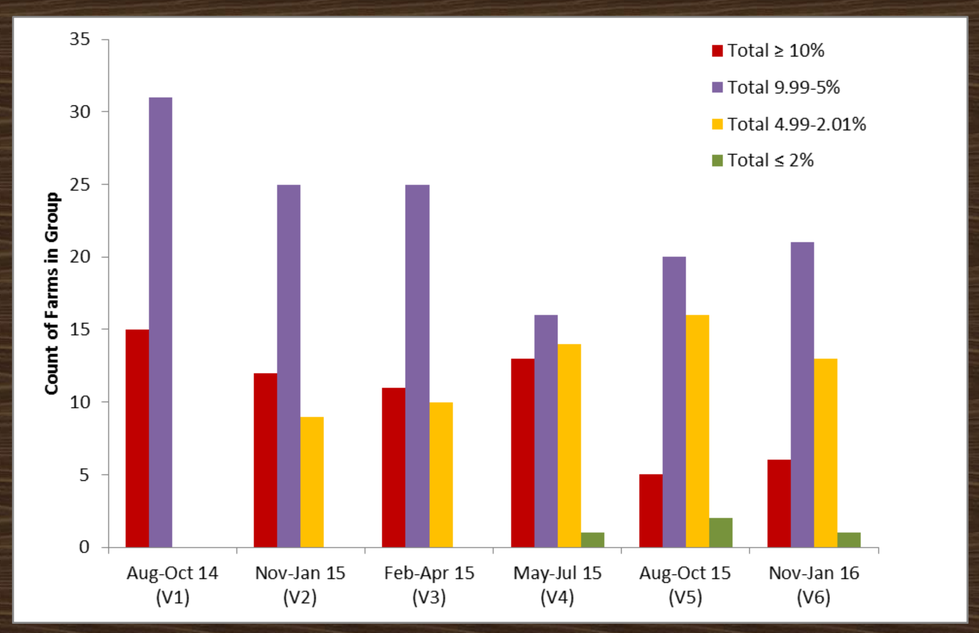

Figure 3. Distribution of farms based on lameness percentage

Acknowledgements: Ed Smith, Claire Grant, Emma Monaghan, Rachel Clifton, Alan Dickins, and Holly O'Kane

References:
Farm Animal Welfare Council (2011) Opinion on Lameness in Sheep. Defra. www.fawc.org.uk
Wassink, G.J., King, E.M., Grogono-Thomas, R., Brown, J. C., Moore, L. J. and Green, L.E. (2010) 'A within farm clinical trial to compare two treatments (parenteral antibacterials and hoof trimming) for sheep lame with footrot', *Preventive Veterinary Medicine,* **96** 93 – 103