Reduction of Cefovecin use in practice

RCVS Knowledge Antimicrobial Stewardship Award Champion 2026

Gower Veterinary Surgery, Linnaeus

Introduction

The Gower Veterinary Surgery team carried out an audit aiming to reduce cefovecin use. Initial data indicated that it was frequently used, with some variation in appropriateness, and that there was inconsistent recording of the justification for its choice. The team created and implemented clear prescribing guidance to promote responsible prescribing. Follow up audits showed an 83% reduction in use, with accurate dosing 100% of the time and prescribing limited to exceptional circumstances or with culture and sensitivity (C&S) testing justifying its selection. An 18-month re-audit cycle confirmed sustained improvements that align with 'Plan, Prevent, Protect' principles to safeguard antibiotic efficacy and protect animal and public health. This project demonstrates long term success and fundamental changes in how the team view cefovecin use at Gower Vets.

The team used the principles of 'Plan, Prevent, Protect' to help guide their initiative:

- **Plan:** The team identified a problem and developed a clear, structured plan by conducting an initial audit, introducing a new SOP, and settling goals.
- **Prevent:** By reducing cefovecin use, the team have helped to prevent the development of antimicrobial resistance.
- **Protect:** These actions protect animal and public health by preserving antibiotic efficiency, reserving use for exceptional cases, and maintaining effective treatment options in the long term.

1. Choose a topic relevant to your practice

The topic should be amenable to measurement, commonly encountered and with room for improvement.

a. What topic was chosen?

The use of cefovecin – a broad-spectrum cephalosporin antibiotic.

b. Why was this topic chosen?

We had identified that we were using a large amount of European Medicines Agency (EMA) category B (restrict) antibiotics and wanted to reduce how much of these we use as a practice.

2. Selection of criteria

Criteria should be easily understood and measured.

a. What criteria was used?

All animals who had been prescribed cefovecin within set time frames were included within the audit.

3. Set a target

Targets should be set using available evidence and agreeing best practices. The first audit will often be an information-gathering exercise, however, targets should be discussed and set.

a. What target was set?

A target was set that all (100%) cases where cefovecin injection are supported by culture and sensitivity test results or by clearly documented exceptional circumstances in the clinical notes.

A target was set that the correct dosage was administered in 100% of cases. Appropriate dosing was defined as recording an up-to-date weight being for the animal and prescribing in line with the datasheet for that weight.

A target was set to reduce the total amount of Cefovecin dispensed in ml.

b. What evidence was used to define the target?

An audit was conducted on the practice management system (PMS) to identify all cases within each time frame where cefovecin was prescribed. The clinical records were then reviewed to assess whether they met the target of supported and correctly prescribed use to establish the baseline.

4. Collect data

Identify who needs to collect what data, in what form and how.

a. When was the data collected?

Initial data was collected during November and December 2023.

b. What data was collected?

Data listed below was collected from cases that fit the inclusion criteria:

- Number of patients that were prescribed cefovecin.
- Clinical notes.
- Animal weight.
- Volume (ml) prescribed

c. How was the data collected?

The audits were run on the PMS to identify the patients fitting the inclusion criteria followed by a review of their clinical notes. Cefovecin use was measured both by the number of cases and the total volume (ml) administered.

d. Results:

Initial audit data showed 24 cases were Cefovecin was prescribed, with the total of 10.84ml prescribed. Only 23% of cases were appropriately justified and dosing was correct in only 71% of cases.

The full results can be seen in **Annex 1**.

5. Analyse

Was the standard met? Compare the data with the agreed target and/or benchmarked data if it is available. Note any reasons why targets were not met. These may be varying reasons and can take the discussion from the entire team to identify.

c. Was the target met, if not, why not?

No, the initial audit showed that targets were not fully met, indicating both overuse and inconsistency in how cefovecin was being prescribed.

6. Implement change

What change or intervention will assist in the target being met? Develop an action plan: what has to be done, how and when? Set a time to re-audit.

a. What changes were introduced?

New prescribing guidance, including standard operating procedures (SOPs) and flowcharts to assist with decision making, were introduced. These aimed to support the policy that cefovecin was only to be prescribed if its selection was supported by C&S results or for well documented and clear exceptional circumstances. The justification for selecting cefovecin should be detailed in the clinical notes and each patient receiving cefovecin should have an accurate up-to-date weight to ensure accurate dosage calculations and prescription.

b. What was the overall action plan?

To support the introduction of the new SOP guidance, the plan was to introduce it alongside a decision-making flowchart during team meetings for vets to use in all cases when prescribing cefovecin. A wider cultural shift to responsible antimicrobial stewardship was encouraged through team discussions.

c. When was a re-audit planned?

Cefovecin use was re-audited after 3 months and again after 18 months to assess if there had been any sustained improvements.

7. Re-audit

Repeat steps 4 and 5 to see if changes in step 6 made a difference. If no beneficial change has been observed them implement a new change and repeat the cycle. This cycle can be repeated continuously if needed. Even if the target is not met, the result can be compared with the previous results to see if there is an improvement.

a. When did the re-audit take place?

Re-audits took place 3 months after implementing the changes (February and March 2024) and 18months (June and July 2025) to show any sustained improvements

b. What data was collected for the re-audit?

As before, the data collected included:

- Number of patients that were prescribed Cefovecin.
- Clinical notes.
- Animal weight.
- Volume (ml) prescribed

c. How was the data collected?

The audits were run on the PMS to identify the patients fitting the inclusion criteria followed by a review of their clinical notes. Reduction in cefovecin use was measured both by the number of cases and the total volume (ml) administered.

d. Results:

Cycle 2 – The 3-month audit data showed 5 cases were cefovecin was prescribed, with the total of 2.51ml prescribed. There was 60% of cases where cefovecin was prescribed based on C&S testing or under exceptional circumstances that were described in the clinical notes. The appropriate dose was given in 80% of cases.

Cycle 3 - The 18-month audit data showed 4 cases were cefovecin was prescribed, with the total of 2.8ml prescribed. There was 100% of cases where cefovecin was prescribed based on C&S testing or under exceptional circumstances that were described in the clinical notes. The appropriate dose was given in 100% of cases.

Overall, the three audit cycles demonstrated an 83% reduction in the use of cefovecin, sustained over a long time period, helping to cement lasting change for how the team approach antimicrobial prescribing and greater consistency across the team.

The full results can be seen in **Annex 1.**

e. Was the target met, if not, why not?

Yes, over the three audit cycles, an improvement was seen and maintained to achieve the target by summer 2025.

8. Review and reflect

Share your findings and compare your data with other relevant results. This can help to improve compliance.

a. At what stages were the team involved?

The whole vet team needed to be on board to ensure the targets were met over time and to reduce the number of cases where cefovecin was prescribed. Inclusion in team discussions was essential for this buy-in.

b. How were the team involved?

The team were involved with discussions, idea sharing and mind-mapping exercises during the development of the new cefovecin prescribing guidance. The veterinary team also contributed by actively adapting their approach to prescribing antibiotics, with an increased focus on antimicrobial stewardship across all cases.

c. What barriers did the project face, and how were they overcome?

The use of cefovecin at Gower Vets was felt to be wide and common initially. This meant that a culture shift was needed as a team in the way antibiotic prescribing was viewed. Another barrier was client expectation and desire for an injectable antibiotic due to ease of use (one injection rather than return visits or having to tablet animals at home). The new prescribing guidance and whole team education helped vets feel more confident when explaining the changes and the benefits of more appropriate antimicrobial use to animal owners.

d. What was the impact of the project?

This has led to a dynamic shift in how the team view antibiotic use and antibiotic stewardship, with a marked reduction in category B antibiotic use sustained over time. This project has demonstrated how a structured, data driven approach with clear targets and team support can lead to meaningful and sustained improvements in both antimicrobial stewardship and team culture

Annex 1 – Full results

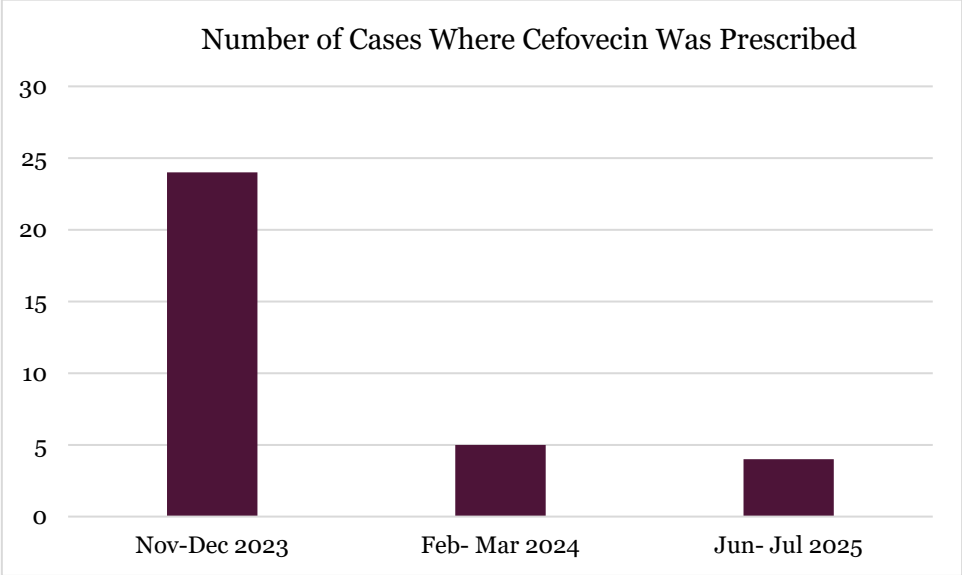

Figure 1. Number of cefovecin prescribing cases across audit cycles.

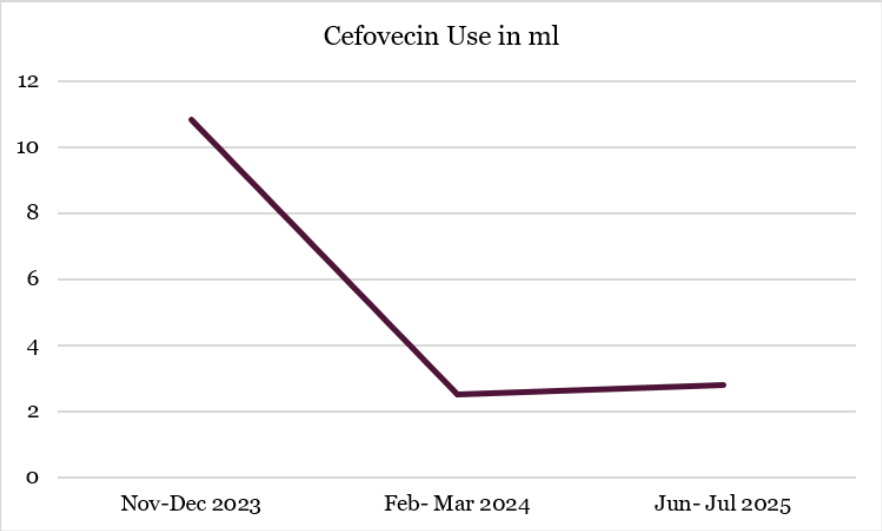

Figure 2. Total volume (ml) of cefovecin prescribed across audit cycles.

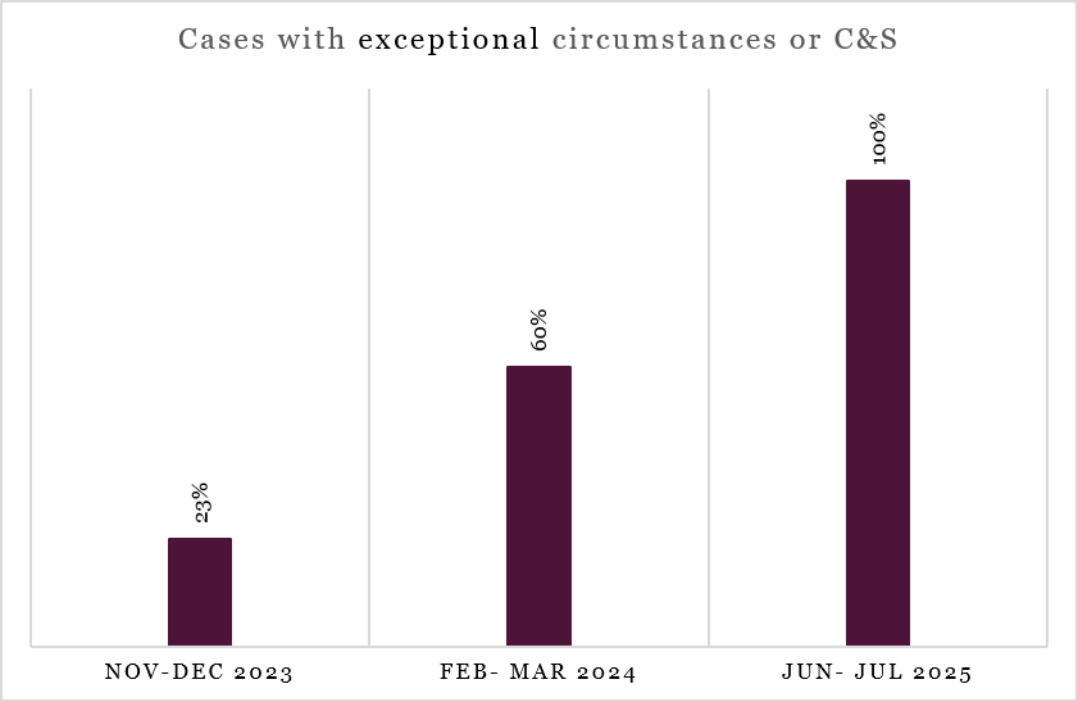

Figure 3. Proportion of appropriately justified cefovecin prescriptions and correct dosing.

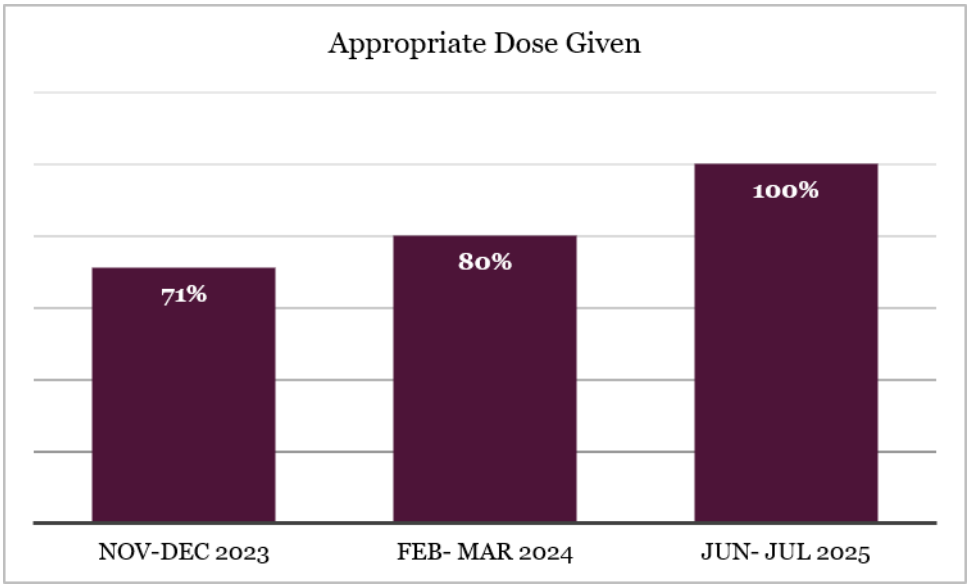

Figure 4. Proportion of cases receiving an appropriate cefovecin dose across audit cycles.

Summary

Clinical audit is a process for monitoring standards of clinical care to see if it is being carried out in the best way possible, known as best practice.

A clinical audit can be described as a systematic cycle. It involves measuring care against specific criteria, taking action to improve it, if necessary, and monitoring the process to sustain improvement. As the process continues, an even higher level of quality is achieved.

What the clinical audit process is used for

A clinical audit is a measurement process, a starting point for implementing change. It is not a one-off task, but one that is repeated regularly to ensure ongoing engagement and a high standard of care.

It is used:

- ⇒ To check that clinical care meets defined quality standards.
- ⇒ To monitor the changes made to ensure that they are bringing about improvements and to address any shortfalls.

A clinical audit ensures concordance with specific clinical standards and best practices, driving improvements in clinical care. It is the core activity in the implementation of quality improvement.

A clinical audit may be needed because other processes point to areas of concern that require more detailed investigation.

A clinical audit facilitates a detailed collection of data for a robust and repeatable recollection of data at a later stage. This is indicated on the diagram wherein in the 2nd process we can see steps 4, 5 and 6 repeated. The next page will take you through the steps the practice took to put this into practice.

Figure 5: The Veterinary Clinical Audit Cycle by RCVS Knowledge.