Use of antibiotics in livestock production in light of new FDA guidelines

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Agenda

• Definitions
• FDA Guidance 209/213 regulations
• VFD Regulations
• Summary
Definitions

- **VFD**
  - *Veterinary Feed Directive*: A veterinary order for feeding medically important antibiotics in animal feeds

- **VCPR**
  - *Veterinary Client Patient Relationship*: The established relationship between a livestock producer and their veterinarian who oversees the animal health for that operation

- **FDA/CVM**
  - *Food and Drug Administration and Center for Veterinary Medicine*: Regulates all approvals of antibiotic usage.

- **OTC**
  - *Over the Counter*: Purchasing antibiotics without a prescription

- **Rx**
  - *Prescription*: For the purchase and use of an antibiotic from a veterinarian.
So how did we get here??

Concerns about:
- Role of antibiotic use in animal medicine in creating resistance!!
- No definitive link!!
Antibiotic Usage Reporting – FDA 2012

- Annually, each drug manufacturer must report the sales and distribution of antibiotics that are approved for use in food animals.
- Is reported by pounds of active ingredient
- Limitations:
  - Not actual usage data
  - Some drugs approved for food animals AND companion animals
  - Veterinarians are authorized to change dose in non-feed related antimicrobials
  - Not species specific.

95% of all antibiotic usage is in feed and water.
Antibiotic Usage Reporting – FDA 2012

- Most of the antibiotic usage does NOT require a prescription from a veterinarian
  - Rx/VFD = Veterinary Oversight
  - OTC = “Over the Counter”
    - No veterinary oversight necessary
Summary of FDA Guidance 209/213

1. Limits “medically important” antibiotics to therapeutic purposes (to protect animal health and well-being).
   - Therapeutic Purposes
     - Treatment
     - Control
     - Prevention

2. Non-therapeutic uses of “medically important” antibiotics are no longer permitted.
   - Growth Promotion = Improved growth and feed conversion
Antibiotic Label Indications for Use

• **Treatment**
  - Defined as the use of an antibiotic for the treatment of animals showing clinical signs of disease.

• **Control**
  - Defined as the use of an antibiotic for the treatment of a group of animals where a percentage (usually >10% are sick) and the remainder of the group are not showing clinical signs (yet).

• **Prevention**
  - Defined as the use of an antibiotic in a group of healthy animals that are known to be at risk for, or exposed to, disease agents (before clinical signs).

• **Growth Promotion**
  - Improves growth or feed efficiency
Summary of FDA Guidance 209/213

3. Also states the importance of **veterinary oversight** into all on-farm antibiotic decisions.

   – **Veterinary oversight** will now guide all antibiotic decisions on the farm.
     • All “medically important” antibiotics used in mass medication (feed/water) will have to be scripted (Rx) in their use.

   – Eliminates “Over the Counter” usage of medically important antibiotics used in mass medication (Feed and/or Water).
     • No longer be able to purchase “medically important” antibiotics (feed/water) without a prescription (Rx) from a licensed veterinarian.
Summary of FDA Guidance 209/213

• This means changing marketing status from OTC to Rx (Scripted) or VFD (Veterinary Feed Directive)
  – Water soluble products to Rx – “medicated water”
  – Products used in or on feed to VFD – “medicated feed”

• DOES NOT APPLY to injectable antibiotics
How do you determine if an antibiotic is “medically” important?

- **FDA Guidance #152 (2003)**
- Risk assessment for veterinary drugs creating “potential” resistance issues for human medicine.
  - All scientific assessments done to date have demonstrated that the risk is negligible.
- *Classified all antibiotics into 2 classes:*
  - Medically Important for Human Use
  - Non-medically Important for Human Use
Injectable and Oral Antibiotics For Use In Swine

<table>
<thead>
<tr>
<th>Antibiotics - Oral/Water Med</th>
<th>Antibiotics - Injectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Aureomycin Sulmet *Denegard</td>
<td>*Draxxin</td>
</tr>
<tr>
<td>*Gentamicin Sulfate *Gen-Gard Soluble Powder</td>
<td></td>
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<tr>
<td>*Lincomycin Hydrochloride</td>
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<tr>
<td>*Neo 325, Neo-Med *Nuflor 2.3% Concentrate</td>
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</tr>
<tr>
<td>*Oxytetracycline HCl SP-343, Tetraoxy-HCA 280</td>
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<tr>
<td>*Penicillin G Potassium</td>
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<tr>
<td>*Pennchlor 64, Aureomycin</td>
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<tr>
<td>*SpectoGard</td>
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<tr>
<td>*Sulmet</td>
<td></td>
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<tr>
<td>*Tet-Sol 324, Duramycin 324</td>
<td></td>
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<tr>
<td>*Tylan</td>
<td></td>
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<tr>
<td>*Duo-Pen, BP-48, Combi-Pen *Excede for Swine *Excenel</td>
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<tr>
<td>*Gentamicin Piglet Injection</td>
<td></td>
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<tr>
<td>*Lincomix 25, 100, 300</td>
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<tr>
<td>*Naxcel *Nuflor</td>
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<tr>
<td>*Penicillin G Procaine</td>
<td></td>
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<tr>
<td>*LA-200, Duramycin 72-200, Pennox, Maxium 200</td>
<td></td>
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<tr>
<td>*Polyflex *Tylan 50, 200</td>
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</tr>
</tbody>
</table>

Yellow = Medically Important
Green = Non-medically Important

* Medically important for human use GFI #152
<table>
<thead>
<tr>
<th>Swine Feed Grade Antibiotics</th>
</tr>
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<tbody>
<tr>
<td>Bacitracin Methylene Disalicylate (BMD)</td>
</tr>
<tr>
<td>Bacitracin Zinc</td>
</tr>
<tr>
<td>Bambermycins (Flavomycin)</td>
</tr>
<tr>
<td>Carbadox (Mecadox)</td>
</tr>
<tr>
<td>*Chlortetracycline (CTC – Aureomycin/Pennchol 64)</td>
</tr>
<tr>
<td>*Chlortetracycline/Sulfamethazine/Penicillin</td>
</tr>
<tr>
<td>*Chlortetracycline/Sulfathiazole/Penicillin</td>
</tr>
<tr>
<td>*Neomycin/Oxytetracycline</td>
</tr>
<tr>
<td>*Oxtetracycline (OTC – Terramycin/LA 200/Pennox)</td>
</tr>
<tr>
<td>*Penicillin</td>
</tr>
<tr>
<td>Tiamulin (Denagard)</td>
</tr>
<tr>
<td>*Tylosin</td>
</tr>
<tr>
<td>*Tylosin/Sulfamethazine</td>
</tr>
<tr>
<td>*Virginiamycin (Stafac)</td>
</tr>
</tbody>
</table>

**Yellow = Medically Important**

**Green = Non-medically Important**
Antibiotics **NOT** affected by Guidance 209/213

- **Antibiotics that are already VFD or Rx based:**
  - avilamycin, florfenicol, tilmicosin; or Rx - Tylosin.

- **Antibiotics that are not medically important:**
  - Ionophores (monensin, lasalocid, narasin (Skycis, etc.))
  - Bacitracin (BMD, bacitracin zinc)
  - Bambermycins (Flavomycin)
  - Carbadox (Mecadox)

- **Other drugs (that are not antibiotics), including:**
  - Anthelmentics: Coumaphos, Fenbendazole, Ivermectin
  - Beta agonists: Ractopamine, Zilpaterol
  - Coccidiostats: Clopidol, Decoquinate, Diclazuril
Veterinary Feed Directive (VFD)

• Basically, it is a prescription for utilizing “medically important” antibiotics in animal feed.
  – Not technically a script, but functionally works the same

• It requires a VFD from a veterinarian who the producer has a valid VCPR with for their operation.

• Veterinarian is responsible for filling it our correctly and then sending a copy to the producer and the distributor (feed mill)
  – All parties must retain copies for 2 years or reproduce them upon inspection.
Veterinary Feed Directive (VFD)

• **New requirements:**
  - Vet name, address, phone
  - Client name, address, phone
  - Premises Information (address/GPS/Prem ID)
  - Date of issuance
  - Expiration date - no longer than 6 months
    - number of refills (if allowed by label)
  - Drug – indication, dose and duration
  - Species and production class to be fed
  - Approximate number of animals to be treated
Veterinary Feed Directive (VFD)

- **New Requirements:**
  - VCPR
    - At discretion of State Pharmacy or Veterinary Practice Acts
  - Electronic signature and transmittal acceptable
    - Telephone VFDs will still not be allowed
  - Estimate of tons of feed no longer require
    - Replaced by number of days on feed and approximate number of animals to be treated during VFD period.
What is a Veterinary-Client Patient Relationship (VCPR)?

• It is an agreement between a veterinarian and producer for the veterinarian to assume the responsibility for making medical judgements for the producer's animals.
  – States can have their own VCPR definitions, but they must contain the following language, or it defaults to the federal guidelines (21 CFR 530).
## VFD Final Rule

<table>
<thead>
<tr>
<th>Previous Rule</th>
<th>Revised Rule</th>
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<tbody>
<tr>
<td>• 2 year record retention</td>
<td>• 2 year record retention</td>
</tr>
<tr>
<td>• Original document to mill</td>
<td>• May email or fax document</td>
</tr>
<tr>
<td>• No extra-label use</td>
<td>• No extra-label use</td>
</tr>
<tr>
<td>• <strong>Order for tons of feed</strong></td>
<td>• <strong>Order for number of days and approximate number of animals</strong></td>
</tr>
<tr>
<td>• No refills, unless on label</td>
<td>• No refills, unless on label</td>
</tr>
<tr>
<td>• <strong>Written for one group of animals on a premise</strong></td>
<td>• <strong>Attached list of premises</strong></td>
</tr>
<tr>
<td>• VCPR required</td>
<td>– <strong>For each mill</strong></td>
</tr>
<tr>
<td></td>
<td>• State/Federal VCPR required</td>
</tr>
<tr>
<td></td>
<td>• <strong>Max of 6 mo. expiration</strong></td>
</tr>
</tbody>
</table>
What is a Distributor?

- A “distributor” means any person who distributes a medicated feed containing a VFD drug to another person.
  - Such other person may be another distributor or the client-recipient of the VFD medicated feed.
  - There are two kinds of distributors:
    - Only distributes VFD feed
    - Manufactures and distributes VFD Feed
- Distributors must notify FDA:
  - Prior to the first time they distribute animal feed containing a VFD drug
    - Acknowledgement letter sent to the FDA
  - Within 30 days of any change of ownership, business name, or business address
What about On Farm Feed Manufacturing?

• Will **NOT** need to register as a distributor unless producing feed for commerce or **feed is delivered to site they do not own**
  
  – Example: If they are delivering feed to a site where they own the pigs, but not the site (contract grower), then they will need to register as a distributor with the FDA.
What’s involved in a Prescription?

• Veterinarian will need to issue a prescription (script) in order to direct use for “medicated water”

• **Script should include:**
  – Drug name and active ingredient
  – Concentration and dosage
  – Route of administration
  – Withdrawal time

• Producer needs to keep treatment records for 1 year after the animal is treated.
Implementation Timeline Summary

• **January 1, 2017** – Implementation date for all medically important antimicrobials for use in or on feed to require a VFD
  - **December 2016** – Target for drug sponsors to implement changes to use conditions of products affected by GFI #213
Summary

• FDA Guidance 209, 213, VFD already being implemented
  • No growth promotion of medically important antibiotics
  • More veterinary oversight into antibiotic usage (VFD)
• VFD will be required for all “medically important antibiotics” to be used in feed.
• These regulations will be fully into effect by January 1, 2017
  • We have less than a year to get these changes in place.
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Questions