

# The Gap Between Knowledge and Practice Behavior

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# Inappropriate Use of Antimicrobials

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# Inappropriate Use of Antimicrobials

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- Is inappropriate use the cause of AMR?
- Or is use the cause of AMR?

# Reducing inappropriate use of antimicrobials

- Quality Assurance Programs - BQA
  - Began in the mid 1980s
  - Food Safety/Residue Avoidance → Meat quality → Animal Stewardship → Antimicrobial Stewardship
  - Producer driven; Voluntary; National program; Directed by each state



# Reducing inappropriate use of antimicrobials

- Preconditioning
  - Weaned calves; Vaccinated; Bunk broke
  - Difficult to get producer buy-in -
    - ROI -
    - Every day you own them
  - Benefit to producer is weight gain
  - Small herds - facility expense
    - 93% of herds < 100 hd
  - High feeder cattle prices → more preconditioned calves????

# Reducing inappropriate use of antimicrobials

- Progressive Beef
  - Comprehensive 3<sup>rd</sup> Party Audit
  - Fee for participating
  - Requires VCPR
  - Requires documentation
    - Script
    - Treatment schedule
    - Treatment records
    - Withdrawal times
  - May help open more “upscale” markets



# Reducing inappropriate use of antimicrobials

- Veterinary Feed Directive (VFD)
  - Went into effect 1/1/17
  - Goal: reduce antibiotic use
  - Law - independent producers



# Reducing inappropriate use of antimicrobials

- BQA, Progressive Beef
  - Require VCPR, written treatment plan, disease description
- Preconditioning Programs
  - Primarily aimed at preventive measures (vaccination, stress reduction) in an effort to improve health, reduce treatments
- General rule of thumb:
  - BQA is closely followed by the vast majority of producers, whether or not they precondition their calves.

# Producer Acceptance

- Financial incentives
  - Improved sale price – seldom occurs – weight gain vs. value per pound
  - Value Added – AB free, other upscale markets, other niche markets
- Progress reports
  - BQA offers periodic reports on injection site lesion reduction -> buy-in
  - VFD – Tracks sales – what does that mean?
    - Sales data sketchy; does not measure effect on animal health, welfare
    - Will be difficult to generate progress reports that are meaningful because we don't have verifiable data to use as a benchmark base



# Producer Acceptance

- Organic; Natural; ABF
  - Still considered niche markets
  - ROI is not consistent
  - Requires producer to sign contracts, affidavits, commit to program
  - “You would be surprised how many of your consumers want \_\_\_\_\_.”

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    - More expense - sticker shock - don't stay with it
    - Producers must receive a premium



# Economics

- Sustainability –
  - Definition?
  - Must be economically sustainable
- Incentives
  - Dealing with some of the most fiercely independent people
    - Signing affidavits on production practices
    - Allowing outsiders to inspect their farm, records
    - Accepting guidance

# Economics

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- Incentives
  - Dealing with some of the most fiercely independent people
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    - Accepting guidance
  - Majority of producers – if it is worth their time and effort, and there is a decent ROI, are willing to do about anything the consumer asks



# Knowledge and Behavior

- Farmer/Rancher age -
  - Younger producers more likely to accept new concepts
  - “Seasoned” producers don’t understand why they can’t do it like they always have - feel encroached upon
- Diagnostics
  - Most producers manage disease with basic diagnostic skills, past experience
  - Some veterinary input and guidance, but the veterinarian is not called out to diagnose and treat each animal
  - Safe than sorry

# Knowledge and Behavior

- Technology
  - Expense
  - Small farms vs. large farms
    - More likely to be adapted by larger farms
    - Can spread out over more production units
  - New technologies are plentiful, but need further development, research



# Technologies

- Disease diagnostics - PI BVDV
- Stethoscope
- HF EID ear tags
- Blood tests
- Pedometers

# Summary

- Programs addressing AM use have been in place for years
  - Mainly guidelines - no “teeth”
- Must be ROI - while allowing producers to maintain some level of independence
- Specialty markets/niche markets provide some incentive, but can be inconsistent
- Lack of vertical integration in beef production presents unique challenges
- Sustainability must include financial sustainability