



**Antibiotic Use — Working Together
for Better Solutions**
For Animal Agriculture and Human Health

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Learning from the June Roundtable ...

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Potential Metrics from 2015 NIAA Forum

Metric 1 - Revised Percentage of producers with stewardship programs
% states with working One Health committees
program collection/dissemination of data on AMR from

Metric 2 - Revised Percentage of treatment decisions
guided by diagnostic tests

Metric 3 - Proportion of production units that have a
documented Veterinarian-Client-Patient Relationship (VCPR)

Metric 4 - Degree to which new and alternative interventions
are being used in practice by veterinarians

Metric 5 - Proportion of production units that have a
documented Veterinarian-Client-Patient Relationship (VCPR)

Metric 6 - Degree to which new and alternative interventions
are being used in practice by veterinarians

What about Antibiotic Use Metrics?

- Several questions that need to be answered (WHY? WHAT? HOW? WHO?)
 - What is the goal that we are trying to achieve? (Consumer marketing. Improve animal health. Decrease AMR ... in animal pathogens ... in human pathogens)
 - Are we willing to decrease overall health status? (Animal welfare)
 - How will the metrics be collected? (Manually and report? Electronically?)
 - What is the optimal amount? Is less actually better?
 - Who is going to do this? (Vets? Government? Animal protein industries?)

What about Antibiotic Use Metrics?

- Challenges include differentiating between amount manufactured and sold to distribution, amount that went to veterinarians/animal production units, amount prescribed, amount actually used, etc.
- What do we measure?
 - Amount per production unit per year?
 - Amount per animal per year?
 - Doses per animal per year?
 - What about differences in dosage per lb. body wt?
 - Macrolides: 2.5 mg/kg, 4.0 mg/kg, 6.0 mg/kg, 10 to 20 mg/kg
 - What about frequency of treatment? (Daily, 3 days, 7 days, 10 days)

Potential Antibiotic Use Metrics Per Animal

- Some potential Use Metrics:
 - Defined Daily Dosages (DDD_s) (human, WHO)
 - Animal Daily Dose (ADD_{DK})
 - Defined Animal Daily Dose (DADD_{DK})
 - Defined Daily Dose Animal (DDDA_{NL})
 - Defined dose / no. of head-days
 - Defined Course Dose
- Need to pair with **health outcomes**
 - *“Professional organizations recommend that antimicrobial stewardship programs measure their antimicrobial drug use and the clinical outcomes of interventions that change drug use.”**
 - Example: Defined Course Doses/animal cure

* Infect Dis Clin N Am 28 (2014) 195–214