Antibiotic Stewardship – Recent Activities in Human Medicine and Animal Agriculture

NIAA

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Antibiotic Resistance: A Single Problem that Requires Two Solutions

**Slow the growth of resistance through conservation**
Infection control, reducing inappropriate antibiotic use in humans and animals, and making better use of existing drugs

**Find new drugs to address inevitable resistance**
Reducing barriers, and increasing incentives to develop new antibiotics
Stewardship = careful & responsible management of resources

Antibiotic stewardship

Keep antibiotics effective
- humans
- animals

Avoid unintended consequences
- human health
- animal health
- environment
Progress in Hospital Antibiotic Stewardship Programs

Percentage of U.S. acute care hospitals reporting an antibiotic stewardship fully meeting CDC’s Core Elements, 2014–2016

- 2014: 41%
- 2015: 48%
- 2016: 64%

Inpatient Antibiotic Stewardship Data from CDC Antibiotic Resistance Patient Safety Atlas

gis.cdc.gov/grasp/PSA/indexST.html
Federal Policy Actions - Inpatient Policy Activities for Stewardship

• August 2016 - CMS Proposed rule for Conditions of Participation for hospitals – Still Not Finalized

• CMS Conditions of Participation for Long-term care facilities (finalized 2015 – will be implemented 2018) – Not Fully Implemented

• Joint Commission Standards on Antibiotic Stewardship went into effect January 2017 – Need Improvement on quality
Inappropriate Outpatient Antibiotic Use

• Pew, CDC, and a panel of experts analyzed 2010-2011 data from the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey

• This analysis found that at least 30% of outpatient antibiotic prescriptions were unnecessary
What’s Next on Human Stewardship

• COPs

• Continuous quality improvement of stewardship programs

• Improved data reporting – NHSN

• Better understanding of behavioral drivers and incentives for outpatient
New FDA Strategic Plan on Antibiotics
Research needs: How to reduce the need for antibiotics?
Several product types hold promise as antibiotic alternatives

**Current options for growth promotion & prevention**

- More products have shown efficacy for growth promotion & disease prevention than for treatment
- Currently more products exist with proven efficacy for chicken than for other species
- Alternatives often have a narrower spectrum of action & lower efficacy than traditional antibiotics
- Efficacy often varies across trials for largely unknown reasons

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- Growth promotion, strong scientific evidence for efficacy and commercially used
- Disease prevention, strong scientific evidence for efficacy and commercially used
- Disease treatment, strong scientific evidence for efficacy and commercially used
- Evidence suggesting lack of efficacy
- Growth promotion, some scientific evidence suggests potential efficacy
- Disease prevention, some scientific evidence suggests potential efficacy
- Disease treatment, some scientific evidence suggests potential efficacy

http://www.pewtrusts.org~/media/assets/2017/07/alternatives_to_antibiotics_in_animal_agriculture.pdf
Pew – Farm Foundation Stewardship Work

Tag Team update
What’s next on Animal Stewardship

- Common understanding of core components of antibiotic stewardship
- Continued implementation of stewardship
- Improved data
- Veterinary oversight of all medically important antibiotics
- Antibiotic labels align with judicious use principals
- Prioritize research on alternatives
- Continuous quality improvement