SUBJECT: Inappropriate Use of Antimicrobials in Agriculture
(Action Report)

RELEVANT CORE ISSUE: Patient Safety & Advocacy

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REFERRED TO: Reference Hearing

EXECUTIVE SUMMARY: Antibiotic resistance is a serious and growing problem in human medicine. While medical overuse of antibiotics is a key part of the problem, mounting evidence indicates that the extensive use of antibiotics in agriculture also plays a significant role, by creating a massive reservoir of resistant bacteria that contaminate both the food chain and the environment. By some estimates, the majority of antibiotics now used in the United States are given as feed additives to livestock and poultry for "non-therapeutic" purposes – not to treat sick animals, but rather to promote slightly faster growth and to compensate for poor animal-husbandry practices. Most of these antibiotics belong to classes of drugs used in human medicine, and their widespread use as feed additives promotes development and spread of resistant bacteria. This Action Report requests ANA’s support for phasing out non-therapeutic use of medically important antibiotics as feed additives in order to protect their efficacy in human medicine. In addition, the Action Report requests ANA’s support for the Food and Drug Administration’s proposal to ban therapeutic use of fluoroquinolones in poultry, in order to protect efficacy of fluoroquinolones in treating serious food-borne illness in humans.

RECOMMENDATION(S):

1. WHEREAS, overuse of antibiotics in agricultural is contributing to the emerging crisis of antibiotic resistance (Alliance for the Prudent Use of Antibiotics, 2002), which threatens the ability of nurses to treat patients for bacterial infections successfully and which may pose risks to the health of nurses and their families (Gewanter, 2002); and
2. WHEREAS, nurses can play a critical role in educating the public and policymakers on the importance of maintaining the efficacy of antibiotics by reducing overuse of antibiotics in agriculture; and
WHEREAS,

- The U.S. Centers for Disease Control has identified antibiotic resistance as a “top concern,” and has stated that “Widespread use of antibiotics promotes the spread of antibiotic resistance” (U.S. Centers for Disease Control);
- Antibiotics are extensively used in agriculture, primarily as feed additives for non-therapeutic purposes including growth promotion and routine prophylaxis, and many of these antibiotics are within classes also used in human medicine (Mellon, 2001);
- The U.S. Food and Drug Administration proposed in October 2000 to withdraw the approval for therapeutic use in poultry of fluoroquinolones, a class of drugs that includes Ciprofloxacin, because of evidence that such use is contributing to the spread of fluoroquinolone-resistant *Campylobacter* in humans, thus increasing the difficulty of treating severe food-borne illness (Food and Drug Administration, 2000);
- Bipartisan federal legislation that has been endorsed by numerous health-professional organizations would phase out use of medically important antibiotics as non-therapeutic feed additives unless FDA concludes that continued use does not contribute to antibiotic resistance affecting humans (Preservation of Antibiotics for Medical Treatment Act); and

WHEREAS, few new antibiotics are now under development, and any new antibiotics that reach the market are likely to be more expensive, exacerbating problems of the affordability of health care (Infectious Diseases Society of America, 2003);

THEREFORE BE IT RESOLVED that the American Nurses Association and individual registered nurses will urge Congress, meat and poultry producers, and bulk purchasers of meat to move to promptly adopt policies phasing out the non-therapeutic use of medically important antibiotics and the use in poultry of fluoroquinolones.

REPORT:

A federal Interagency Task Force recently noted that “drug-resistant pathogens are a growing menace to all people, regardless of age, gender, or socioeconomic background. If we do not act to address the problem . . . drug choices for the treatment of common infections will become increasingly limited and expensive—and, in some cases, nonexistent” (Interagency Task Force on Antimicrobial Resistance). The loss of effective antibiotics would gravely hamper many medical procedures, including aggressive chemotherapy, transplantation, and surgery, all of which may weaken patients’ immune functions and/or increase their susceptibility to infection. Young children, seniors, and persons with HIV/AIDS are also particularly susceptible to bacterial infection (Environmental Defense, 2001).

Although overuse of antibiotics in human medicine is clearly a significant cause of the antibiotic-resistance problem, mounting evidence indicates that agricultural overuse also plays an important role. Authoritative data on antibiotic use are not available, but by some estimates 70% of all
antibiotics and other antimicrobials used in the United States are used as agricultural feed
additives for non-therapeutic purposes, i.e., to promote slightly faster growth and for routine
prophylaxis in healthy animals. Approximately half of these drugs belong to classes of drugs
used in human medicines such as penicillins, tetracyclines, macrolides, aminoglycosides,
lincosamides, streptogramins, and sulfonamides (Mellon, 2001). These non-therapeutic uses in
animals do not require a prescription or any other supervision by a veterinary professional.

Numerous experts have called for an end to non-therapeutic use of medically important
antibiotics as feed additives. For example:

- In June 2000, the World Health Organization called for ending the non-therapeutic use
  of medically important antibiotics unless they are shown to be safe (World Health
  Organization, n.d.);
- In October 2001, the New England Journal of Medicine published a guest editorial
  titled “Antimicrobial Use in Animal Feed: Time to Stop” (Gorbach, 2001).
- In June 2002, a multidisciplinary group of scientists concluded based on a two-year
  review of more than 500 studies that “elimination of non-therapeutic use of
  antimicrobials in food animals and agriculture will lower the burden of antimicrobial
  resistance … with consequent benefits to human and animal health” (Alliance for the
  Prudent Use of Antibiotics, 2002).
- In March 2003, the Institute of Medicine’s report on microbial threats to health
  concluded that “Clearly, a decrease in antimicrobial use in human medicine alone will
  have little effect on the current situation. Substantial efforts must be made to decrease
  inappropriate overuse in animals and agriculture as well” (Institute of Medicine, Board
  on Global Health, 2003).
- In December 2003, an expert consultation of the World Health Organization concluded
  that “There is clear evidence of the human health consequences due to resistant
  organisms resulting from non-human usage of antimicrobials. These consequences
  include infections that would not have otherwise occurred, increased frequency of
  treatment failures (in some cases death) and increased severity of infections” (World
  Health Organization and Food and Agriculture Organization).

Moreover, it is clear that reducing use of antibiotic feed additives is feasible. In August 2003,
the World Health Organization published a detailed analysis of experience in Denmark, the
world’s largest exporter of pork, which banned such use in the late 1990s. WHO concluded that
Denmark’s ban had resulted in a 54% decrease in overall antibiotic use in agriculture, with no
impact on food safety and meat prices, and virtually no impact on animal welfare or productivity
(World Health Organization, 2003).

In addition, in June 2003, the McDonald’s Corporation adopted a policy requiring certain meat
suppliers to reduce use of medically important antibiotics as growth promoters, and providing for
a purchase preference for other suppliers that comply with the policy (McDonald’s Corporation,
2003). In November 2003, Bon Appetit, a major food-service company, adopted a policy that is
similar to but more extensive than the McDonald’s policy (Bon Appétit, 2003). More generally,
a growing number of suppliers are able to supply meat, fish, and dairy products produced
without routine use of antibiotics (numerous such suppliers, for example, are listed at

Despite these steps, however, substantial quantities of medically important antibiotics continue
to be used as feed additives in the U.S. While the Food and Drug Administration (FDA) has
authority to withdraw such drugs from the market, prior withdrawal proceedings for other
agricultural drugs have taken six to twenty years to complete per drug or drug class (Sundlof,
2001), suggesting that it would take FDA several decades to complete action on the eight classes
of medically important antibiotics now approved for non-therapeutic use.

In addition to concerns about non-therapeutic use of medically important antibiotics as feed
additives, some therapeutic uses of agricultural drugs also raise concerns. In particular, the U.S.
Food and Drug Administration proposed in October 2000 to withdraw the approval for
therapeutic use in poultry of fluoroquinolones, a class of drugs that includes Ciprofloxacin. FDA
concluded that poultry fluoroquinolones should be removed from the market because their use is
contributing to the spread of fluoroquinolone-resistant Campylobacter in humans, thus
increasing the difficulty of treating severe food-borne illness (Food and Drug Administration,
2000). It is not known when the current regulatory proceeding will be concluded.

The American Nurses Association therefore supports legislation to phase out the non-therapeutic
use of medically important antibiotics as feed additives, as well as voluntary efforts to reduce
both non-therapeutic use of medically important antibiotics and use of fluoroquinolones in
poultry.

REFERENCES:

Alliance for the Prudent Use of Antibiotics (2002). The Need to Improve Antimicrobial Use in
Agriculture: Ecological and Human Health Consequences. Clinical Infectious Diseases,
34 (Suppl.3), S71-S144. Retrieved January 30, 2004, from
http://www.tufts.edu/med/apua/Ecology/faair.html

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Threatens Children, Seniors and the Medically Vulnerable. Retrieved March 12, 2004,

Food and Drug Administration Department of Health and Human Services (2000). Enrofloxacin
for Poultry; Notice of Opportunity for Hearing. Docket No. 00N-1571. Federal Register,
65(211), October 31, 2000, 64954 – 64965.


Sundlof, Steven, Director, Center for Veterinary Medicine, Food and Drug Administration. Letter of February 28, 2001, Re: Docket 99P-0485/CP.


Past House Action(s): None identified

Relates to ANA Strategic Goals:

_______ I. Professional Practice Excellence

ANA successfully champions professional nursing excellence through standards, code of ethics, credentialing and professional development.

_______ II. Healthcare & Public Policy

ANA is an acknowledged leader in the formulation of effective healthcare and public policy as they affect workplace issues related to nursing and the adequate supply of nurses.

___X___ III. Knowledge & Research

The nursing healthcare community looks to ANA as the recognized source for accurate, comprehensive health policy information.

_______ IV. Unification

ANA has a structure that facilitates unification and advancement of the profession.

_______ V. Workforce & Workplace Advocacy

Nurses are recognized as essential providers and valued decision makers in all practice settings.

_______ VI. Does not relate to ANA Goals
Relates to ANA Core Issues:

- Appropriate Nurse Staffing
- Nursing Shortage
- Workplace Rights
- Workplace Health & Safety
- Patient Safety & Advocacy
SUBJECT OF PROPOSAL: Inappropriate Use of Antimicrobials in Agriculture

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Suggested Implementation Activities: