

For the Record

Straight talk about antibiotic use in food-animal production

Sponsored by ALPHARMA Inc. Animal Health

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INSIGHTS ON THE ISSUE

Practiced in the art of misdirection

"People are more violently opposed to fur than leather because it's safer to harass rich women than motorcycle gangs."
—Bumper sticker

A time-tested rule of thumb says that you stand a better chance to win an argument if you can frame the debate using your own vocabulary. The controversy over antibiotic use in animals illustrates the point. High-paid consumer advocates, well-funded anti-technology groups, and posturing politicians line up before TV cameras to demand food-animal producers, processors and retailers immediately join them in safeguarding human health. Meanwhile, they ignore the elephant in the room that demonstrates what a sham their issue really is: Human health has never been better.

■ Food continues to get cheaper and more available. Keeping animals healthy by using technological tools like subtherapeutic antibiotics makes affordable meat, milk and eggs available to a wider market of Americans. That better diet means better health.

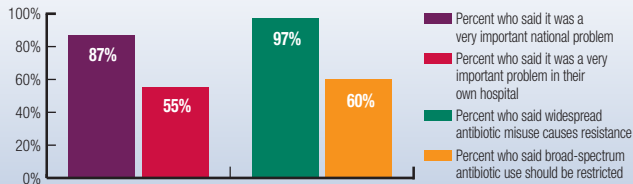
■ The same is happening on a global scale. Demographers are dismissing yesterday's gloomy predictions of overpopulation and starvation, now believing total world population will likely never exceed a manageable 10 billion. Modern agriculture, which has doubled the world's food supply in 50 years, can more than capably feed that population.

■ US illness rates caused by food—already among the lowest in the world—are decreasing.

■ Cancer rates are falling, in spite of increased use of synthetic chemicals.

The Hypocritical Oath?

Cook County researchers surveying 490 doctors from 4 Chicago hospitals found a disconnect between their attitudes about the importance of antibiotic resistance and how the problem should be handled.



Source: Archives of Internal Medicine, October 2002.

Like good magicians, opponents of agricultural antibiotics are practiced in the art of misdirection. As long as they can keep the public's eye on the laudable—

but phony—goal of improving public health, their hidden agendas don't have to stand up to the unforgiving light of public skepticism.

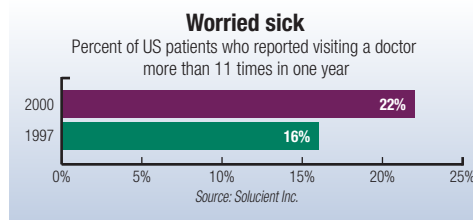
LOGICAL CONCLUSIONS UNDERLYING THE DEBATE

Targeting the "Worried Well?"

Conceived in the Internet era's easy access to half-baked health advice, nurtured by a \$2.5 billion direct-to-consumer prescription drug advertising industry, and supported by easy and third-party-funded access to health care, a new class of medical patient has arisen in the last quarter century: the [Worried Well](#).

Not quite suffering from full-blown hypochondria—which is a recognized mental disease—the Worried Well are the next tier of constant complainers. They often visit the doctor for little more than reassurance they aren't really sick. [New research](#) by Michigan State doctors estimates that true hypochondriacs represent only about 14 percent of patients who see a doctor more than 6 times yearly. In comparison, over 50 percent of those high-frequency patients are the Worried Well, patients without disease but with complaints. They waste up to half of a general practitioner's day, according to some anecdotal evidence.

Such a society of constant worrywarts makes a ready audience for groups that make a living off public health scares, whether it's Alar in apples, bovine somatotropin, or food-animal antibiotics—



Worried sick

Percent of US patients who reported visiting a doctor more than 11 times in one year

Source: Solucent Inc.

none of which have been scientifically proven to pose a significant health hazard, despite media notoriety.

Also in this issue:

- Great progress has already been achieved in protecting human antibiotics. Guess who has led the effort.
- Health risks must be rated not in terms of possibility, but probability.
- Why it's critical we communicate the progress we've made to our consumers.

For the record

Were the real issue protecting or improving human health, the advocates of banning antibiotic use in animals would have recognized long ago that the battle's already won. Human health has never been better.

Progress toward the true goal: guarding health

For the record

Alarmist rhetoric about the risks of animal antibiotics ignores the great progress that has been made in protecting human health with safer food.

While special interests have been braying about the “looming crisis” of antibiotic use in agriculture, they’ve missed the quiet revolution that’s actually accomplished the goal they supposedly seek. Unparalleled progress—often led by the industry they’re attacking—has been made. Here are some milestones:

New voluntary guidelines

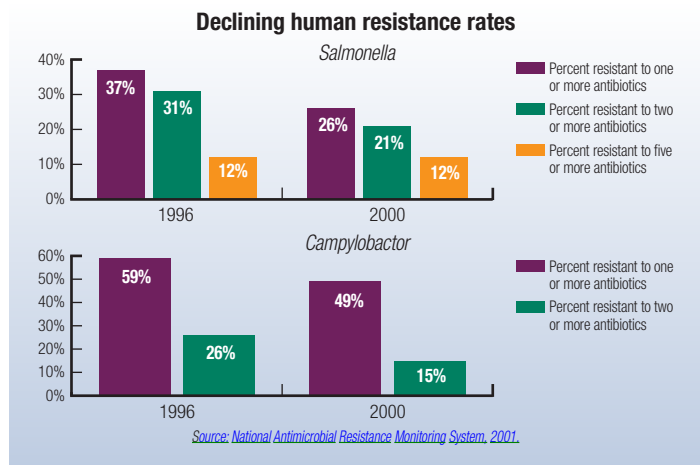
Developed in a cooperative effort between the American Veterinary Medical Association and the Centers for Disease Control, the Food and Drug Administration, and other veterinary organizations, [guidelines](#) were drafted to ensure producers use their antibiotics prudently, to ensure quality in their animal products. All voluntarily. The widely adopted guidelines...

- Encourage herd-management plans to prevent disease and thus avoid need for treatment.
- Involve knowledgeable veterinary guidance for all producers.
- Educate food producers on safe storage, administration, label instructions, record-keeping, residue monitoring and other practices to improve the safety of antibiotic use.

Reduced food contamination

The occasional exception notwithstanding, the US food supply remains as safe as any in the world. [Data released by the CDC](#) in April showed that the rates of food poisoning caused by any of the four major bacterial causes—*Campylobacter*, *Salmonella*, *Listeria* and *E.coli* 0157—have fallen 21 percent since 1996. Other less common bacterial causes have shown even greater declines.

That success owes to campaigns to convince consumers that



they share responsibility for their own health and must ensure proper cooking and handling. It also owes to reduction in the incidence of *Salmonella* on carcasses and ground meats, according to USDA data, because of improved slaughter plant handling.

Stable rate of animal resistance to key drugs

The most recent [data from FDA, CDC and USDA's National Antimicrobial Resistance Monitoring System](#) shows the levels of resistance in animal bacteria to the 17 antimicrobials tracked have for the most part remained relatively low and stable since monitoring began in 1996.

Reduced rates of some human resistance

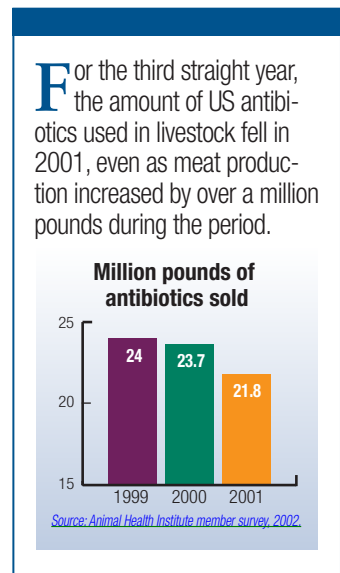
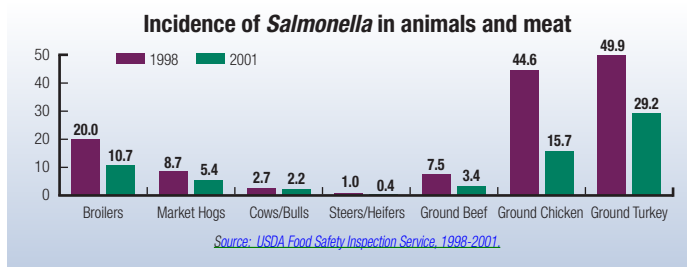
Although the rate of resistance to important drugs in human bacteria [continues to rise](#), the incidence of resistance among the important bacterial causes of food poisoning, *Salmonella* and *Campylobacter*, is actually falling. *Salmonella* resistance to one or more antimicrobials [decreased by 30 percent](#) between 1996 and 2000. *Campylobacter*

resistance [decreased by 17 percent](#) between 1997 and 2000.

It's telling to note that this decrease comes at the same time that new worldwide surveillance data show that as Europe has banned the use of growth promotants, the rates of human resistance to Enterococci bacteria have risen, not fallen.

New mechanisms to monitor potential resistance

Government and industry have responded to concern over antibiotic resistance by establishing an inter-agency system to continually monitor the rates of antibiotic resistance in both animals and humans. That early-warning monitoring system provides ongoing data to assess risk of resistance attributable both to animal drug use and human use.



For the third straight year, the amount of US antibiotics used in livestock fell in 2001, even as meat production increased by over a million pounds during the period.

Perspective on the abused concept of “relative risk”

At the group’s annual meeting in October 2002, [Infectious Diseases Society of America](#) President David Gilbert told attendees, “We live in a sea of microbes, and we certainly want the public to know there are risks out there. But we need to keep things in perspective.”

That perspective is one element often missing from media reporting about antibiotic resistance. Too often, they take the statistical tool known as relative risk and misinterpret it as certainty.

Relative risk is a second-hand measure of the possible connection between disease and factors that may—or may not—contribute to it. It calculates the number of disease victims exposed to an agent or practice, compared to the same exposure in a group of healthy people.

The problem then occurs when advocacy groups and scientifically illiterate media interpret relative risk as an indicator of causation. [One classic example](#) is a 1996 study of 4,700 American women that concluded that wearing a bra increases the risk of breast cancer by 125 times. (Despite the fact the research was roundly criticized for failing to account for smoking, drinking, weight, and lack of exercise.)

Advocates of banning antibiotic use engage in the same abuse of relative risk when they argue, for instance, that because resistance to the drugs known as fluoroquinolones rose in humans at the same time that they were first used in animals, the latter must be causing the former.

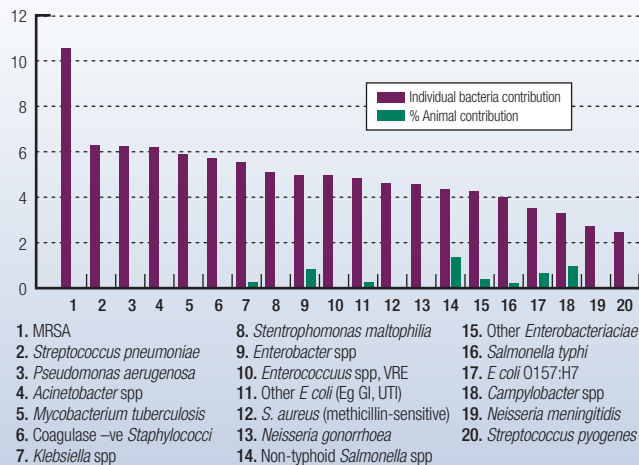
Is it possible that antibiotic use in animals can transfer resistance to humans? No doubt. But the issue is not possibility. It’s probability.

That probable risk is extremely low, according to a risk assessment from Georgetown University researchers. [The study](#) estimated that over a ten-year period, the relative risk that someone will die because they get a fluoroquinolone-resistant infection of *Campylobacter jejuni* by eating ground beef is about one in 250 million.

Such long odds have led a majority of microbiologists in a recent survey to say that animal

sources of human infection are either not or unlikely to be a source of human resistance.

Relative percent contribution each bacterial species makes to the overall human resistance problem



Source: Based on a survey of the perceptions of 20 internationally recognized experts in clinical microbiology. *Journal of Antimicrobial Chemotherapy*, Oct. 2000 and Dec. 2000.

For the record

Decisions about using antibiotics in food animals cannot dwell on the possibility of resistance. The only important issue is probability, as measured by relative risk.

There’s also risk in action

Advocates of banning subtherapeutic antibiotics because we can’t afford the risks miss an important point: There’s also risk in not permitting their use.

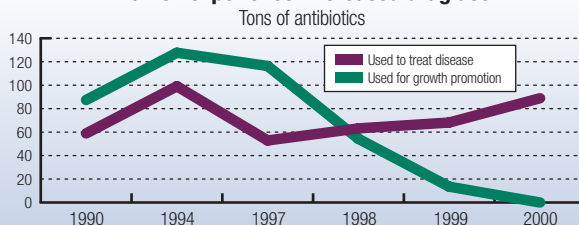
■ After Denmark banned the use of all growth promoters in 1999, disease increased, mainly in the swine population. That increased disease, [according to figures](#) released in July 2002, led to an increase in use of therapeutic antibiotics by 30 percent in 2000; 17 percent in 2001.

■ After Sweden pioneered Europe’s ban on subtherapeutic antibiotics in 1986, use of medicated feed for therapy increased there, as well, because key animal disease rates increased.

■ Other European countries experienced a similar jump in the use of therapeutic drugs after outlawing low-level use for growth promotion, including:

- France. A 51 percent increase in use on broilers to control gut disease.
- Germany. A 13 percent increase in use on pigs and chickens.
- Netherlands. A 14 percent increase between 1999 and 2001—even as animal numbers declined.
- United Kingdom. A 4-ton decrease in growth promotants accompanied by a 54-ton increase in therapeutic drugs.

Danish experience: Increased drug use



Source: Danmap 1999 and Danmap 2000.

Communicate your progress

I'm not going to say that we as an industry bring problems on ourselves sometimes. But too often we do tend to think we operate in a vacuum. And we don't today.



Jeffrey B. Turner
Vice President of Government
and Environmental Affairs
Murphy-Brown LLC

Those of us in a fully integrated system may recognize one fact more immediately than the typical producer, but it's true for us all: We can grow pigs or chickens or calves all day, but unless there's someone willing to purchase and consume them, there is no market. Today's consumers are more interested than ever in food safety and food quality—and they should be. We all should be, for that matter. When I enjoy a Smithfield Pork or Carolina Turkey product with family and friends, I know it was grown with care and responsibility.

But where producers have failed is in not letting the consuming public know that food safety is not a new issue. The industry recognized the need to provide education for producers long before it became an issue. We have training, assurance programs, and other mechanisms

in place that ensure precautions are being applied throughout the system. We've just done a terrible job at communicating that.

For every generation added to the population that's a stranger to the farm, it becomes incumbent upon the few of us left in production agriculture to educate our policy-makers and our consumers as to what it is we do on their behalf. That includes communicating to the outside world that good animal husbandry includes the qualified use of antibiotics and medications when and if they are needed.

The responsible use of the production tools of modern agriculture is what permits more and better food to be produced using fewer resources and at less cost. Without those tools, our society would not enjoy the standard of living it enjoys today. When you couch it in those terms, it suddenly takes on a different perspective. Producers have an awesome responsibility. Today there are fewer people producing the basic needs of an ever-growing population than ever before. Think about it, we are all benefactors of modern agricultural practices. That's the message we have failed to deliver.

For the Record

As today's food consumers become further and further removed from the realities of animal agriculture, they become more susceptible to misleading scare tactics employed by consumer activists. For the Record, sponsored by a grant from [ALPHARMA](#), underscores our belief that consumers want the good news that their food is safe and wholesome. This series is designed to help unite the industry and protect our ability to produce and market healthy supplies of meat, milk, poultry and eggs to our customers. It's time that all of us in the system providing that food become active in getting the message out. We believe it's time to set the record straight.

If you have questions, or want to learn more, contact Steve Kopperud, at skopperud@poldir.com, or visit us online at www.alpharma.com/ahd/For_The_Record

WORKING TOGETHER WE CAN SET THE RECORD STRAIGHT

For the record

One tactic used by opponents of antibiotic use is to turn members of the food system against each other.

Divided we fall: Support from all sectors of the food system is critical

Over the years, opponents of using antibiotics in food production have been continually frustrated in their attempts to convince Congress or the FDA to ban the practice. So they have evolved toward a less direct approach. Taking their case directly to consumers, they use media campaigns to, first, enlist consumer pressure in their cause and, second, highlight the occasional link in the food system that openly shuns or criticizes the practice. Glorifying

those instances as heroic and courageous, they then attempt to cast negative light on the remainder.

That strategy leverages their efforts, in effect forcing a ban on the rest of the food system by the actions of one link. To avoid such divide-and-conquer tactics, the Animal Health Institute suggests these goals for an integrated foods-system approach:

■ Understand we're all aligned in the same goal: providing safe, affordable, healthy food.

- Coordinate a system for responding to the issues with one unified voice. Avoid efforts to turn food system segments upon each other.
- Improve the system for managing food safety concerns. Develop a system to respond quickly to adverse actions. Take advantage of the expertise and knowledge available from the diverse members of the foods system.
- Manage issues before they escalate into crises by improving communication.