

For the Record

Volume 9, Issue 1 — February 2010

Straight talk about antibiotic use in food animal production presented by ALPHARMA Inc., Animal Health

SOMETHING IS ROTTEN IN THE STATE OF ANXIETY

Proof again that timing is everything in politics, President Obama's dash-in/dash-out appearance at Copenhagen's Global Warming Summit in December was overshadowed in the media by "ClimateGate." Leaked emails from England's University of East Anglia climate



study center seemed to show some of the world's leading global warming scientists torturing data to mask contradictory results

and discussing methods to suppress work that doesn't support the consensus.

Now, as Rep. Louise Slaughter and the media follow the President's footsteps to publicize the "consensus" science that Denmark's antibiotic ban justifies trying the risky and potentially costly experiment in the U.S., it's prudent to



Ground Zero for global-warming activism, Copenhagen has also become the center of orbit for the movement to ban use of farm antibiotics in the U.S. But are the books being cooked to support the politics? See inside.

ask: Is the activist-driven climate of panic giving consumers and legislators all the facts on antibiotics, or is it cherry-picking its supporting evidence to crush honest debate?

'THE SCIENCE SAYS...', BUT HOW RELIABLE IS IT?

"Many scientific studies," according to the House bill sponsored by Rep. Louise Slaughter (D-NY) that would ban most uses of livestock antibiotics, "confirm that the nontherapeutic use of antibiotics in agricultural animals contributes to the development of antibiotic-resistant bacterial infections in people."

But how strong is that research?

Foodborne disease experts at Canada's Public Health Agency evaluated the scientific soundness of 132 food-related scholarly journal reviews, 36 of which examined the risk that farm antibiotics impact human antibiotics. Independent reviewers critically evaluated the reviews using 13 criteria accepted in the medical field. The result?

"...routine scientific methods are rarely or never utilized in literature reviews addressing zoonotic public health issues; thus preventing end users from appropriately evaluating [their] validity," the study concluded.

Overall, none of the 132 articles met more than eight of the 13 soundness standards, two articles met only one criterion, and the median met only five. Of the 36 articles reviewing antibiotic risk, 30 expressed the opinion that animal use posed some risk for human health, yet only four attempted to quantify that risk, and none tried to synthesize the magnitude from other studies that had attempted it. Nine percent of the articles failed to support the reviewers' conclusions with the evidence.

"The conclusions of a literature review are perhaps the most important statements of the review..." the Canadian researchers wrote. "Ten per cent of the reviews [overall] made conclusions beyond the evidence presented, potentially leading to exaggerated or misleading conclusions and recommendations."

Source: Waddell L, et al. *The methodological soundness of literature reviews addressing three potential zoonotic public health issues.* Zoonoses Public Health. 2009 Nov;56(9-10):477-89.

Also in this issue

- Denmark is all the rage with politicians bent on ending most uses of farm antibiotics. But are we hearing the whole story?
- Why a ban could have the opposite effect of what backers say they want
- Where are the results in improved human health?

For the record...

As in the climate change debate, advocates and media who claim the 'scientific consensus' supports banning farm antibiotics are ignoring some conflicting data.

CHERRY-PICKING SCIENCE

■ Citing a *New York Times* story about a young woman paralyzed by *E.coli* contaminated beef (which even her allies remind her is irrelevant to a discussion of Danish farm antibiotics), Rep. Slaughter singled out opponents who **dared to question the glowing success** of Denmark's ban on low-level antibiotics, writing, "...[Denmark's] results are dramatic and encouraging, and help refute many of the criticisms that my bill has faced."

■ Activist fundraiser and now the Pew Trusts' farming authority **Laura Rogers** lectured liberal bloggers that consumers should ignore all that **ugly, agribusiness-driven criticism** questioning the lack of any real human results following Denmark's ban. They should instead simply urge Congress to fall in line.

Even the European Union's (EU) own Scientific Committee for Animal Nutrition, a diverse panel

of expert animal scientists, warned more than a decade ago that science **did not support the ban**. Yet Denmark's ban has continually been held up by activists in this country as a successful model of science supporting political action to protect public health.


Now, as potential federal legislation looms once again, Slaughter and her supporters are trotting out **cherry-picked Danish results**, claiming:

- "No negative impact on animal production."
- A 50-percent drop in total food-animal antibiotic use.
- Reduced antimicrobial resistance.



Believers in the success of Denmark's antibiotic ban, like Rep. Louise Slaughter, are selecting the science to fit the advocacy.

BIG BROTHER, DVM?



Frustrated, perhaps, by continual unwillingness to apply Europe's drastic ban here, Slaughter and others are pressing other attacks on your ability to use medications. In September, she wrote the Government Accountability Office (GAO), **demanding it immediately review** how deeply the government tracks your use of those tools. She made no similar demand to monitor doctors and hospitals. However, her request for a one-sided GAO look at on-farm oversight led Rep. Collin Peterson (D, MN), chair of the House Agriculture Committee, and Rep. Leonard Boswell (D, IA), to formally request GAO similarly investigate how the federal government tracks and oversees antibiotic use in human medicine.

Apparently dissatisfied with voluntary reporting from animal drug companies which doesn't support activist-inflated claims that 70 percent of all antibiotics go toward growth promotion, Slaughter wants the federal government to not only count the amount of animal antibiotics used, but also track how they're used, what they're used for, how well FDA enforces current uses, and "further data" needed to assess their risk to human health. According to one leading ag economist, such data would necessarily include your farm records on veterinary diagnoses, animal numbers, feed use, facilities and other factors.

In Denmark that level of bureaucratic intrusion typically triggers a government inspection of a veterinary clinic when its prescribing pattern diverges from historical baselines, and has been used to order lab testing and an okay from central control before a clinic can continue prescribing.

RIGHT BY HALF IS WRONG BY HALF

Well, sort of:

■ While it's true the Danish pig and poultry industries have continued to increase production, to claim no impact on productivity ignores many scientists' contention that Denmark's pork and poultry industries have become more productive in spite of, not because of, the ban. Although Danish pork producers have increased productivity in terms of pigs per litter and average daily weight gain, data collected by the Danish government show an increased mortality rate in weaner and finisher pigs for at least five years following the growth promoter ban. Only by instituting sometimes heroic changes in production practices—such as increasing the weaning age, changing diet composition, increasing relatively more expensive vaccination, and including other non-antibiotic feed additives—did producers manage to recapture losses from the ban. Feed efficiency in broilers has only now returned to levels immediately before the ban. All raised costs to Danish farmers. Instituting the ban in the U.S. has been estimated to risk adding about \$6 per head to hog production costs, at a time when the average pork producer has lost at least \$19 on every head sold.

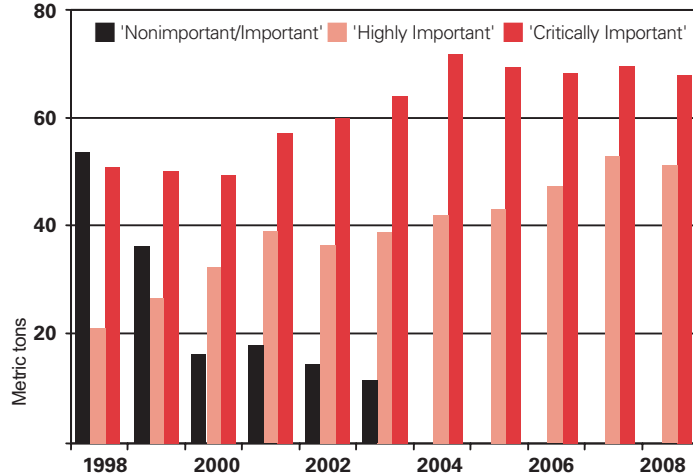
■ Although **Denmark's own tracking data** show that in order to get a 50 percent reduction in use you have to begin counting in 1992, not 1998 when the ban took effect, the more important point is that more antimicrobials are being used today to treat animals than were used annually as growth promoters before the ban. While many of the growth promoters weren't used in human medicine, many of those therapeutic antimicrobials now being employed are in classes that could directly affect human health. The use of such drugs has increased steadily by about 5 metric tons

UNINTENDED CONSEQUENCE WHEN POLITICS MEET THE REAL WORLD OF ANIMAL AGRICULTURE

Ignoring warnings that “growth-promoting” antibiotics were important to help keep animals healthy, Danish politicians banned them after 1998. The result: Veterinarians were forced to prescribe more antibiotics to fight disease.

But the more important story isn't being reported by pro-ban advocates nor the media. The “growth promotants” Denmark banned tended to be those considered less critical to human health; meanwhile, the more heavily prescribed drugs are the antibiotics deemed critical to controlling human infection. The pattern of use clearly demonstrates that over the long run, the ban has encouraged more — not less — use of antibiotics that could pose a risk to humans.

Type of antibiotics used in Danish farm animals

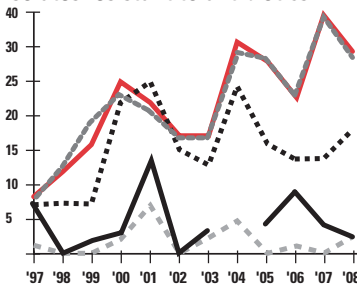


As categorized for their importance to human medicine by the UN Food and Agriculture Organization, the World Health Organization and the World Organization for Animal Health. “Critically Important:” Glycopeptides, avilamycin, penicillins, aminoglycosides, streptogramins, macrolides, fluoroquinolones and cephalosporins/other penicillins. “Highly Important:” Tetracyclines and sulfonamides. “Nonimportant/Important:” Flavofosfopolol, quinoxalines, coccidiostats and bacitracin.

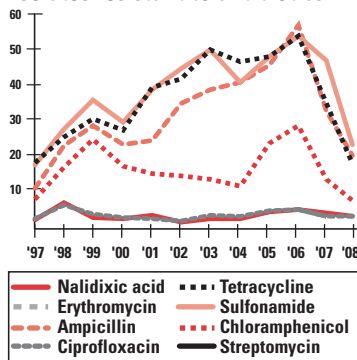
annually, and is now 66 percent higher than it was a decade ago.

■ Although the ban did appear to impact resistance in some animal bacteria, little meaningful connection can be drawn between the ban and changes in resistance where it really matters—in human pathogens.

Percent of human *Campylobacter* isolates resistant to antibiotics



Percent of human *Salmonella* isolates resistant to antibiotics



RELYING ON A LITTLE BIT OF CREATIVE AARETHMETIC?

In a letter to the House Agriculture Committee publicized by Rep. Slaughter, the head of the antimicrobial resistance unit for Denmark's National Food Institute, Dr. Frank Aarestrup, took issue with what he called “creative interpretations” of Denmark's data. Yet several of his own points appear to be selectively interpreting the results of the ban. Consider the following:

■ Although Dr. Aarestrup points out tonnage of antibiotic use in Danish pig farms has dropped 51 percent on a per-pound-of-meat-produced basis, his measurements started in 1992, six years before the legal ban went into effect. In contrast, from 1997 through 2008, according to Danish figures, total veterinary consumption of antimicrobials fell about 27 percent.

Further, when measured by the more sensitive gauge known as “Animal Defined Daily Dose,” which attempts

to compensate for changes in herd numbers by calculating the amount of drug used in standardized doses, the Danish data show consumption increased 22 percent from 2001 (the first year Denmark used the measure) through 2007, before leveling off to increase 1.9 percent in 2008.

■ Dr. Aarestrup's figures presented to Congress made the case that resistance to certain antibiotics in farm animals declined following the ban — which, as expected, some did. However, not all did. In particular, the important foodborne pathogens *Salmonella typhimurium* in pigs and *Campylobacter jejuni* in broilers continued to stubbornly increase post-ban.

The important lesson to be learned from Denmark's politicized ban is that blanket bans are a blunt instrument trying to solve a public health problem that calls for the precision of a scalpel.

Principal Points
Is the Science Being
Manipulated to Support
Denmark's Antibiotic Ban?
Vol. 9 No. 1 February 2010

- Politicians and activists advocating for a ban on the low-level use of most livestock and poultry antibiotics in the U.S. contend Denmark's blanket ban on such uses has been a success in reducing drug use and improving human health.
- The Danish ban on growth-promoting uses of antibiotics has cost that country's pork and poultry producers dearly, forcing actions to compensate for productivity losses, including facility design and management changes.
- Even though low-level use of antibiotics dropped to nothing, the resulting increase in disease and suffering called for veterinarians to prescribe more antibiotics for treatment. Such treatment use is now two-thirds higher than it was a decade ago.
- Supporters of a ban here claim it is necessary to protect human health. Yet Denmark has yet to show any meaningful improvement in human resistance rates attributable to the ban in animals.

For the Record, sponsored by a grant from ALPHARMA Inc., Animal Health, is designed to help unite the industry and provide a unified, rational message on behalf of producers whose freedom to use safe, effective, economical production methods is at stake. Working together, we can set the record straight on antibiotics.

Questions or comments? E-mail Steve Kopperud at skopperud@poldir.com or editor Mike Smith at CustomMedia@Food360.com. Read past issues or link to more information on this issue at www.AntibioticTruths.com.

WHERE ARE THE RESULTS?

In, 1997 the Veterinary Antibiotic Policy Working Group of the Danish Veterinary Laboratory stated its official position at a Berlin meeting, that severely restricting farm antibiotics was a good idea, because, in part "...it will reduce the risks for human health problems due to the use of antibiotics in animal husbandry."

By 2003, when the World Health Organization praised Denmark as a "success" in restricting farmers' freedom to employ farm antibiotics, it was careful to soften that goal: The ban had "achieved a reduction in the reservoir of resistant microorganisms in food animals." It was a yardstick **repeated in the letter** to Rep. Slaughter by Denmark's Frank Aarestrup. Any language promising or boasting of measurable human health benefits had been scrubbed.

After 10 years, that crucial result— any impact the farm animal antibiotic ban has made on drug-resistant bacteria in humans that may plausibly have come to them via their food from farm animals—remains undemonstrated:

■ Increases in resistance in human *Salmonella* were observed immediately following

the ban, and were actually attributed to the ban in the World Health Organization's otherwise favorable report.

■ When it comes to *Campylobacter*, it appears the ban only reinforces that there's **little connection** between the use of animal drugs and resistance in humans. Its rate of resistance against the human antibiotic erythromycin hasn't changed in a decade, and it's still higher than the rate of resistance to the same drug class in chickens. At the same time, *Campylobacter's* four-fold leap in resistance rate in humans against ciprofloxacin and its analog—drugs used only sparingly in Danish food animals—suggests something besides animal use is to blame.

■ Meanwhile, many parts of Europe continue to experience epidemics of resistant sentinel bacteria in humans. Over the past five years, vancomycin-resistant *E. faecium* has fallen in only two countries, while it has increased significantly in five countries. At the same time, other tracked bacteria associated with hospital infections have remained stable in antibiotic sensitivity—before, during, and after all growth promoter bans there.

ADD YOUR VOICE TO HELP CORRECT THE DISINFORMATION

■ **CONTACT YOUR CONGRESSIONAL REPRESENTATIVES.** Tell them you are a constituent and that you need them to oppose any restrictions on your legal, safe and professional use of antibiotics, restrictions based on unsound science or irrelevant experience from other countries.

Find your senator's contact info at: www.senate.gov/general/contact_information/senators_cfm.cfm

Connect with your representative at: writerep.house.gov/writerep

■ **SPECIFICALLY**, ask your two senators to **oppose S. 619**. Ask your Representative to **oppose H.R. 1549**. Both are reckless regulation not based on proven science.

■ **TO SEND A PREPARED** form letter to your congressmen and the local media, **go to this link courtesy** of the American

Veterinary Medical Association:
avmacan.avma.org/avma/issues/alert/?alertid=13873126.

Remember, the most effective letters are those you edit to insert your own words, thoughts and personality.

Go to AntibioticTruths.com to link directly to these Internet sites

■ **GET THE FACTS ABOUT ANTIBIOTICS.** Read all the past issues of *For the Record* at AntibioticTruths.com. Additional background information is available at www.AHI.org and www.HealthyAnimals.org

■ **ASK FELLOW FARMERS** and veterinarians to follow suit with their members of Congress. The threat of legislation is imminent and real. Your opinion counts.