

Agricultural Antibiotics

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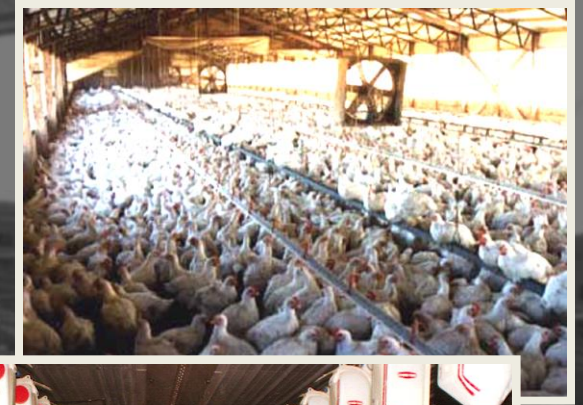
Natural Resources Defense Council

January 2017



Treatment/Control Use

- ✓ FDA-approved
- ✓ Unapproved, off label use

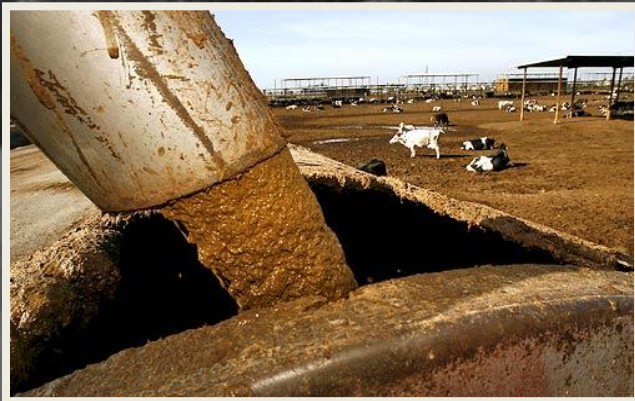
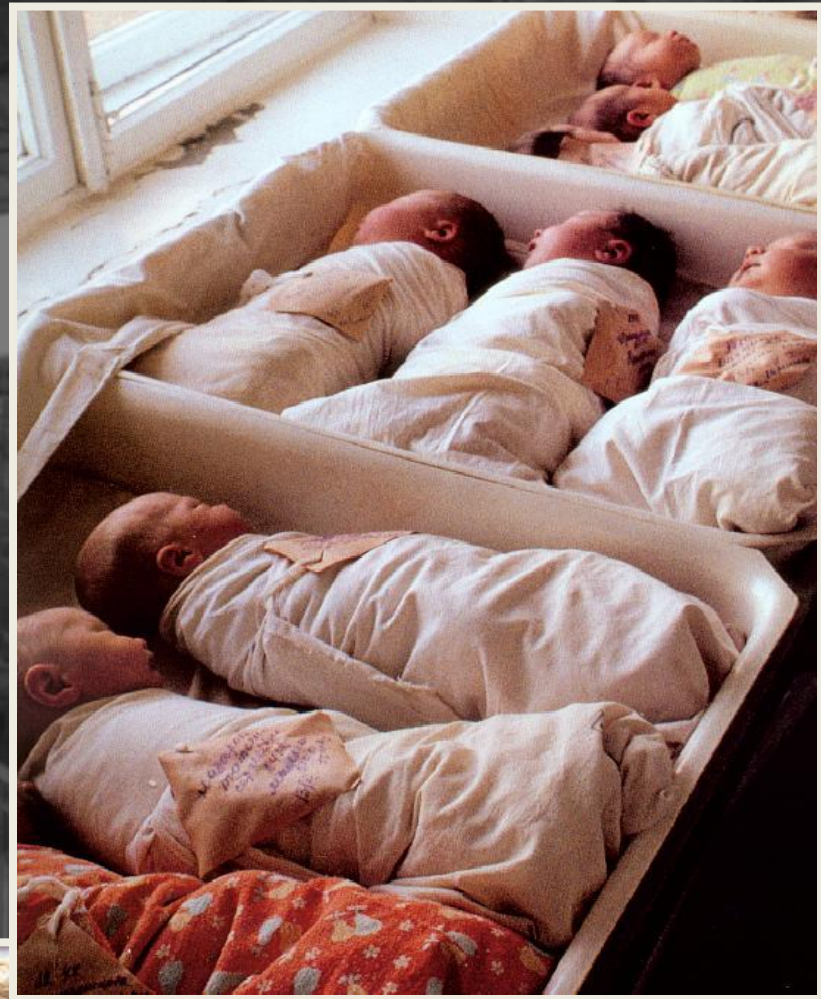


Use in animals that aren't sick

- Growth promotion
- “Prevention”
 - ✓ In feed or water
 - ✓ Low dose
 - ✓ No duration limits



- **Non-prescription**
- **Poor dose control**
- **Poor infection control**
- **No ecologic controls**





A FOOD SAFETY ISSUE, BUT SO MUCH MORE....

Frequency of bacteria resistant to 3 or more classes of antibiotics on retail meats (2014)

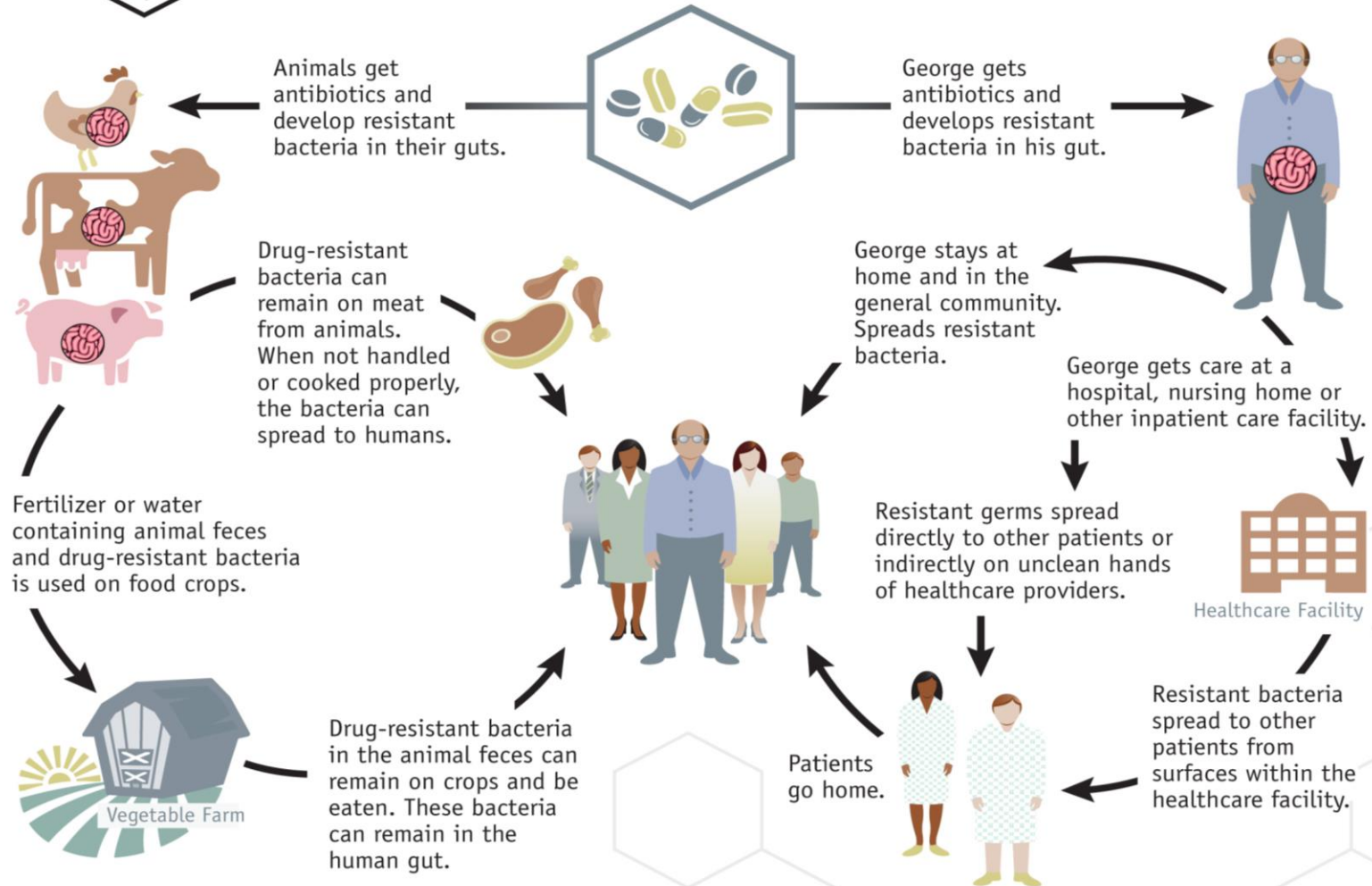
	Chicken	Turkey	Beef	Swine
<i>Campylobacter</i>	4%	N/A	2%	36%
<i>E. coli</i>	36%	54%	8%	10%
<i>Enterococci</i>	52%	59%	6%	12%
<i>Salmonella</i>	20%	36%	39%	20%

FDA, National Antimicrobial Resistance Monitoring System, Integrated Report, 2014

ONE HEALTH, AND THE ECOLOGY OF RESISTANCE



Examples of How Antibiotic Resistance Spreads



ONE HEALTH, AND THE ECOLOGY OF RESISTANCE

- The greater the quantity of antibiotics sold or used, the more resistance will develop and spread.
- The greater the number of individuals in a given species given antibiotics, the more bacteria are exposed, and the greater the likelihood resistance will develop and spread.
- The longer the duration of antibiotic use, the longer the period of time in which resistance can emerge and spread.

The Facts Are Clear.

The misuse of antibiotics
in food animals is a
threat to human health.

Hundreds of scientific studies conducted over four decades have shown that feeding low doses of antibiotics to healthy food animals leads to drug-resistant infections in people. In fact, America's leading medical, scientific and public health organizations have been warning of the danger for years.

Yet many involved in industrial farming deny the science and continue to routinely feed antibiotics to animals that are not sick, mainly to offset the effects of unsanitary and overcrowded conditions and to promote faster growth.

Antibiotic-resistant infections claim tens of thousands of American lives each year and significantly drive up our health costs. It's time for Congress, the White House and the U.S. Food and Drug Administration to act decisively to protect our life-saving antibiotics so they work for sick people.

A message from:

- Alliance for the Prudent Use of Antibiotics
- American Academy of Pediatrics
- American College of Preventive Medicine
- American Public Health Association
- Center for Science in the Public Interest
- Johns Hopkins Center for a Livable Future, Bloomberg School of Public Health
- Michigan Antibiotic Resistance Reduction Coalition
- National Foundation for Infectious Diseases
- Society of Infectious Diseases Pharmacists
- Pediatric Infectious Diseases Society
- Pew Health Group
- Union of Concerned Scientists

Read our letter to Congress on
the science of antibiotic resistance
at SaveAntibiotics.org.

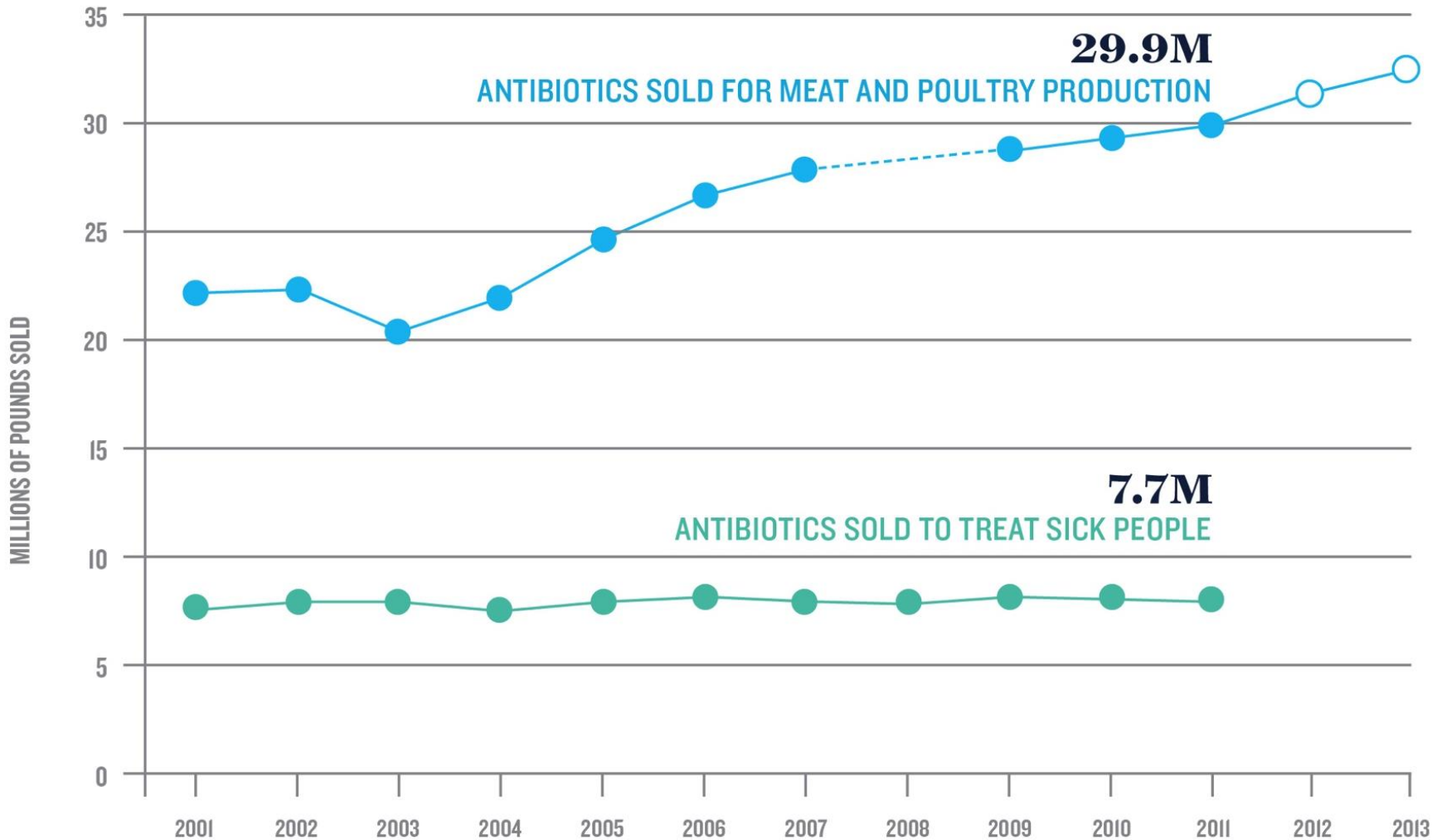
THIS ISN'T SCIENTIFIC, IT'S POLITICAL

“Hundreds of scientific studies conducted over four decades have shown that feeding low doses of antibiotics to healthy food animals leads to drug-resistant infections in people.”





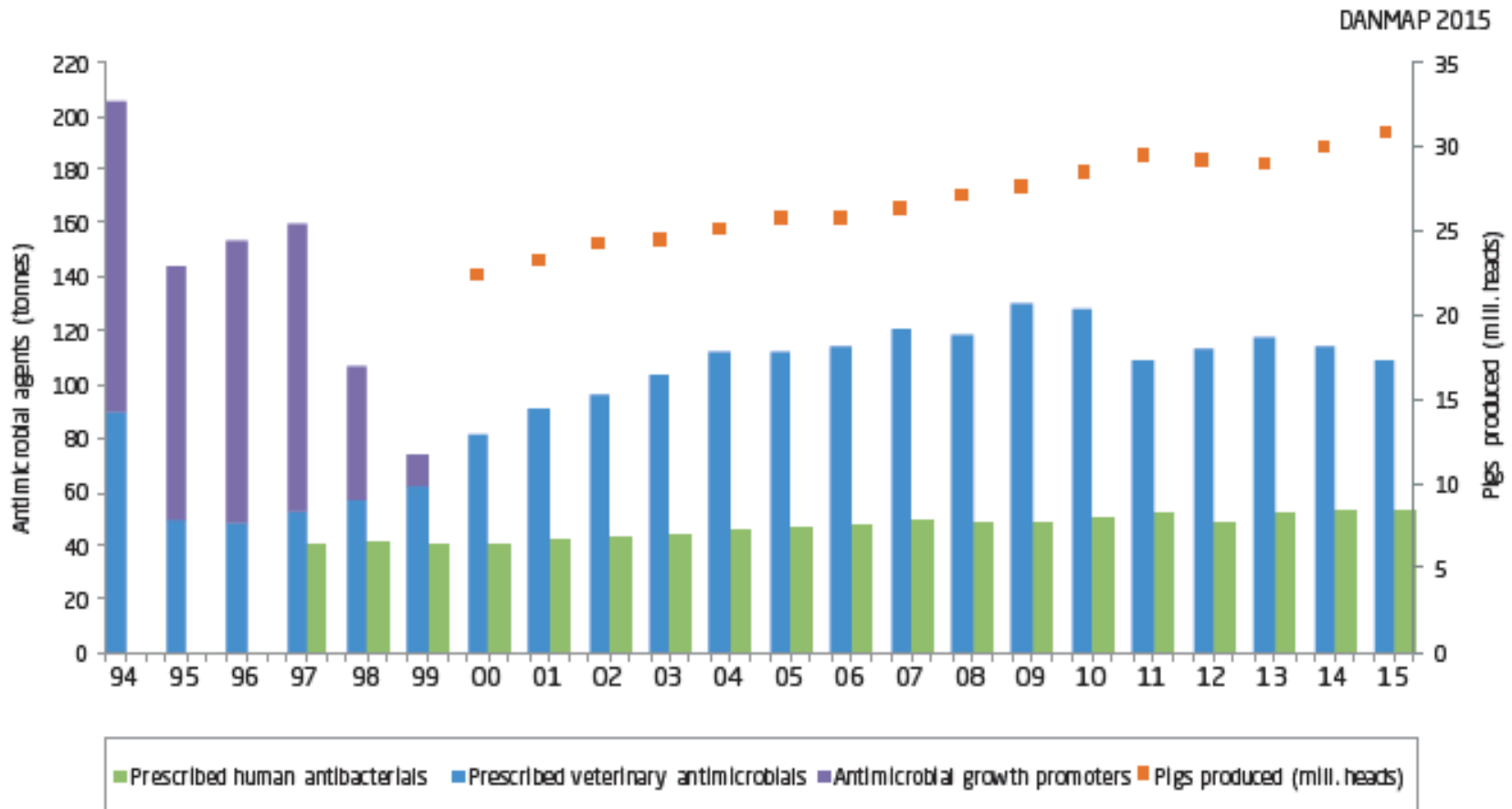
80% OF ANTIBIOTICS ARE SOLD FOR AGRICULTURAL USE



Source: Pew Charitable Trusts, February 2013; Food and Drug Administration



- Agricultural antibiotic use (consumption) *dropped 47%*, 1994 to 2015 in Denmark.
- Pigs produced in the same period *rose by 15%*.



Source: DANMAP 2015 - Use of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from food animals, food and humans in Denmark. September 2015. ISSN 1600-2032. Accessed at: <http://www.danmap.org/~media/Projekt%20sites/Danmap/DANMAP%20reports/DANMAP%20%202015/DANMAP%202015.ashx>.

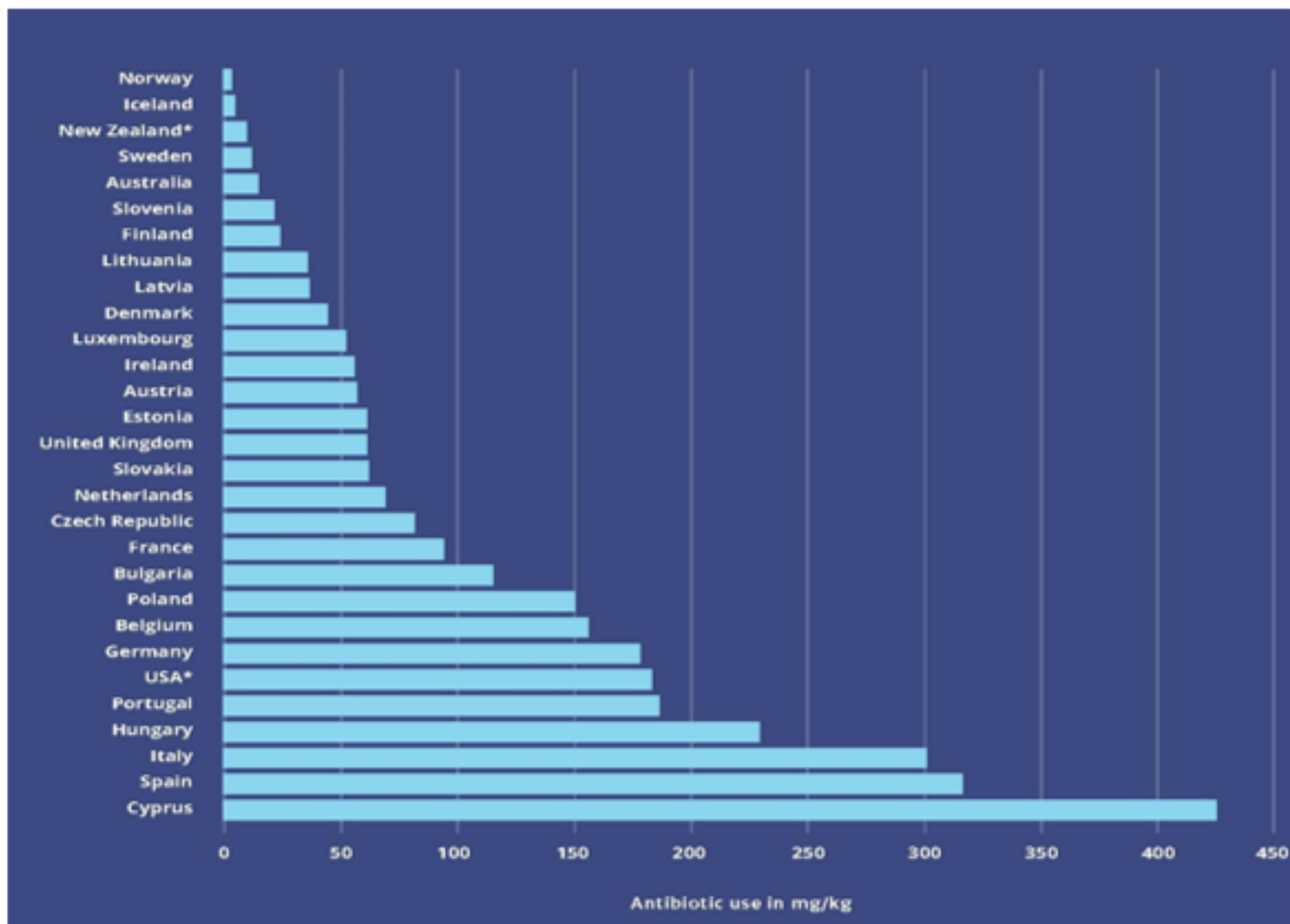


Fig. 1: Agricultural antimicrobial use (in mg / kg of animal body weight) in 25 EU/EEA countries, Australia, New Zealand and the U.S.⁷⁷



80% OF ANTIBIOTICS ARE SOLD FOR AGRICULTURAL USE

	2009	2013	2014
Human Antibiotics Used in Animals (kg)			
Tetracyclines	5,260,995	6,514,779	6,660,849
Cephalosporins	20,145	28,337	31,722
Penicillins	691,644	828,721	885,975
Other Antibiotics	1,733,925	1,821,456	1,897,443
<i>Sub-total</i>	<i>7,686,564</i>	<i>9,193,293</i>	<i>9,475,989</i>
Other Antibiotics in Animals (kg)			
<i>Sub-total</i>	<i>4,900,893</i>	<i>5,591,752</i>	<i>5,882,221</i>
Total	12,587,457	14,785,045	15,358,210

<http://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM476258.pdf>,
Courtesy of Gail Hansen, DVM



EXECUTIVE BRANCH LEADERSHIP?

The Washington Post

Health & Science

The Trump administration is ill-prepared for a global pandemic

By **Lena H. Sun** April 8

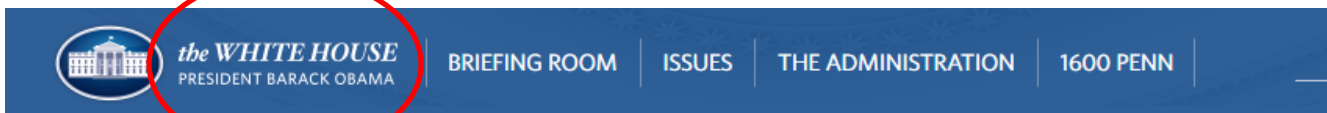
The Trump administration has failed to fill crucial public health positions across the government, leaving the nation ill-prepared to face one of its greatest potential threats: a pandemic outbreak of a deadly infectious disease, according to experts in health and national security.

No one knows where or when the next outbreak will occur, but health security experts say it is inevitable. Every president since Ronald Reagan has faced threats from infectious diseases, and the number of outbreaks is on the rise.

Over the past three years, the Centers for Disease Control and Prevention has monitored more than 300 outbreaks in 160 countries, tracking 37 dangerous pathogens in 2016 alone. Infectious diseases cause about 15 percent of all deaths worldwide.



EXECUTIVE BRANCH LEADERSHIP?



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Disclosures

The White House

Office of the Press Secretary

For Immediate Release

March 27, 2015

FACT SHEET: Obama Administration Releases National Action Plan to Combat Antibiotic-Resistant Bacteria

- ✓ Targets for reducing antibiotic use in human medicine
- ✓ No such targets in livestock production (and, per GAO, zero interest by industry or FDA in setting such targets)
- ✓ Deference to existing FDA initiatives



- While FDA ended growth promotion, it has failed to stop producers from just switching to still-allowed use of the same drugs, and dosages in feed, for unlimited duration, as “prevention”
- The GAO says the FDA isn’t collecting data on antibiotic use that will allow the Agency to know if its effort has been successful.

Despite GAO calling for it since 2004, the FDA and USDA have continued to fail to negotiate access to farms to see how antibiotics are used -- even in case of foodborne outbreaks of disease

- 1) NPR.org – The Salt, March 24, 2017
- 2) GAO: ANTIBIOTIC RESISTANCE –More Information Needed to Oversee Use of Medically Important Drugs in Food Animals, March 2017.

The U.S. Can't Really Know If Farmers Are Cutting Back On Antibiotics, GAO Says

March 24, 2017 - 5:20 AM ET

MARYN MCKENNA



One Health, and the Ecology of Resistance

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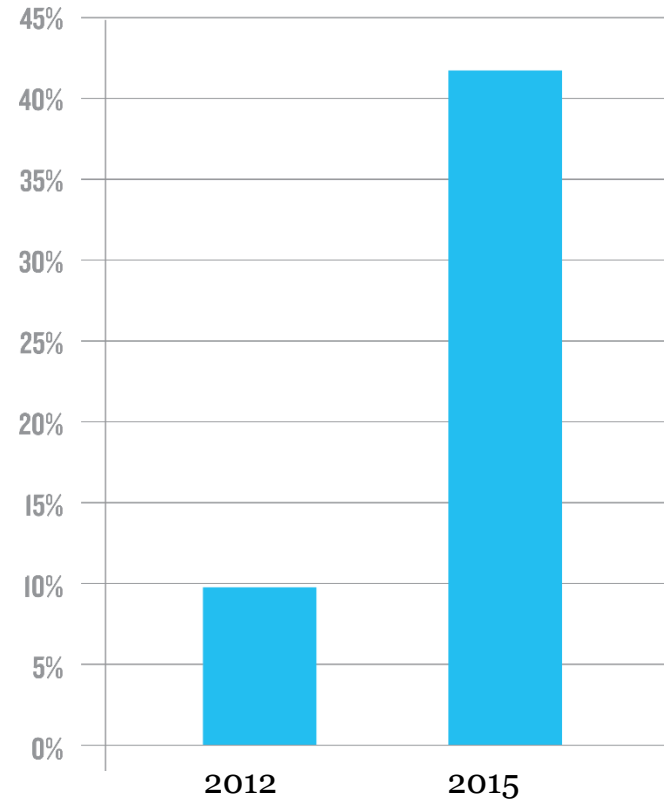
**FDA HAS FAILED
TO CURB ROUTINE ANTIBIOTIC USE**



CONTRASTING "POLICY" LEADERSHIP BY COMPANIES, HOSPITALS, ETC.



Percent of U.S. Broiler Production Not Using Routine Antibiotics (actual and pledged)*



* Estimated based on published claims to promote antibiotic stewardship by end of 2016; actual increase is likely higher.



Thank You.

