Procurement to Advance Government Sustainability Goals:

Putting market forces to work

Tompkins County schools support local farms' efforts to prevent "Superbugs"

Kenneth Jaffe, MD
Center for Agricultural Development and Entrepreneurship
Slope Farms LLC

Recent NY State Policy on Agriculture, Antibiotics and Farm to School

NYS Dept of Health: <u>STop Antibiotic Resistance Roadmap (STARR)</u>

- **Details serious antibiotic resistant bacterial infections in moving from livestock to people in NY State**


<u>2018 NYS Farm to School law</u> budgets new funding for local purchase

- **creating new supply chains in NY from farms to schools**

Game changing 2018 NY State farm to school funding

- State offers schools $0.25/meal to buy NY grown foods
- Prior subsidy for local procurement = $0
- **Schools must reach 30% NY to qualify**
- **30% strategy: products that are available during school year, including beef**

2018 UN Report on Antibiotic Resistance... predicts yearly human death increase from 700,000 to 10 million by 2050
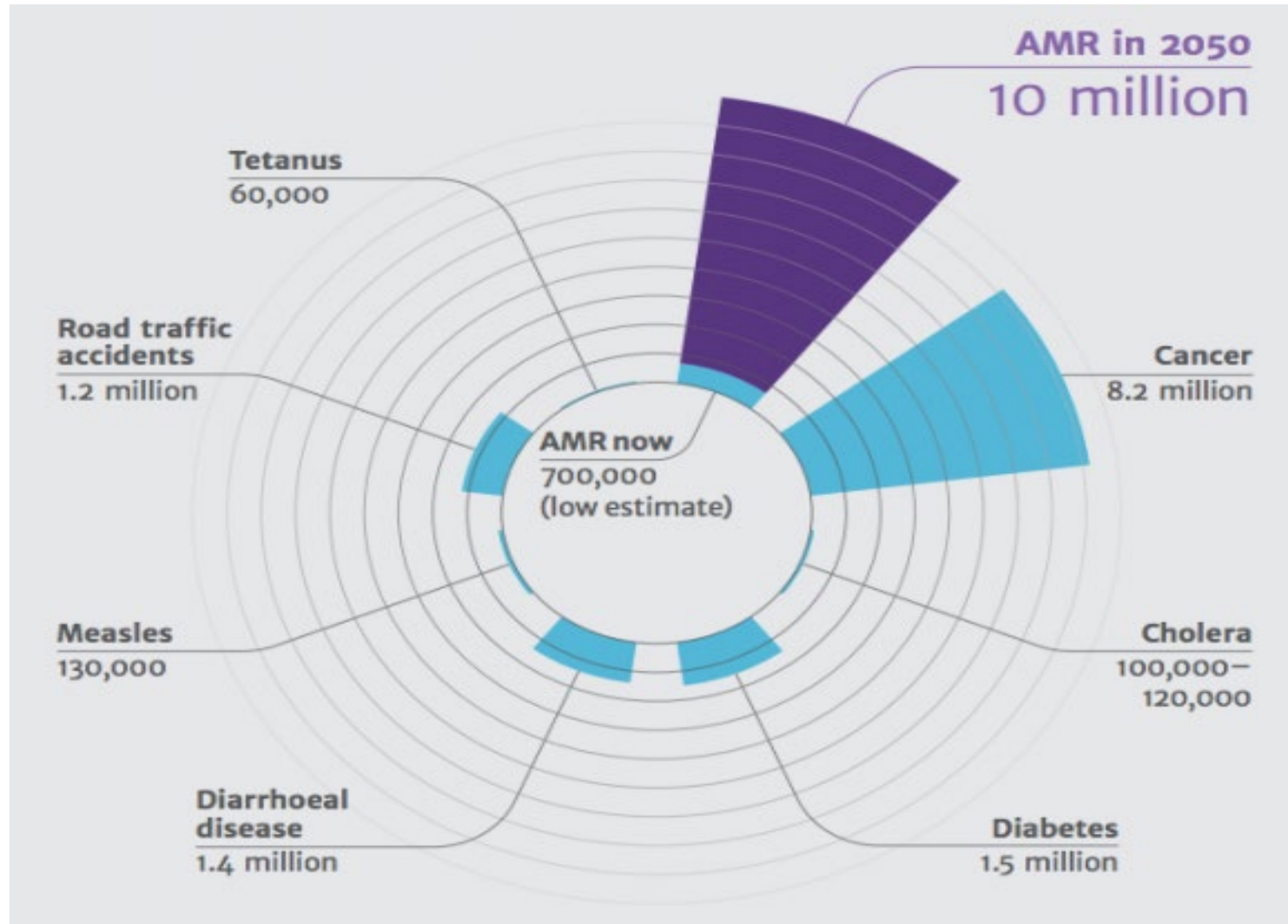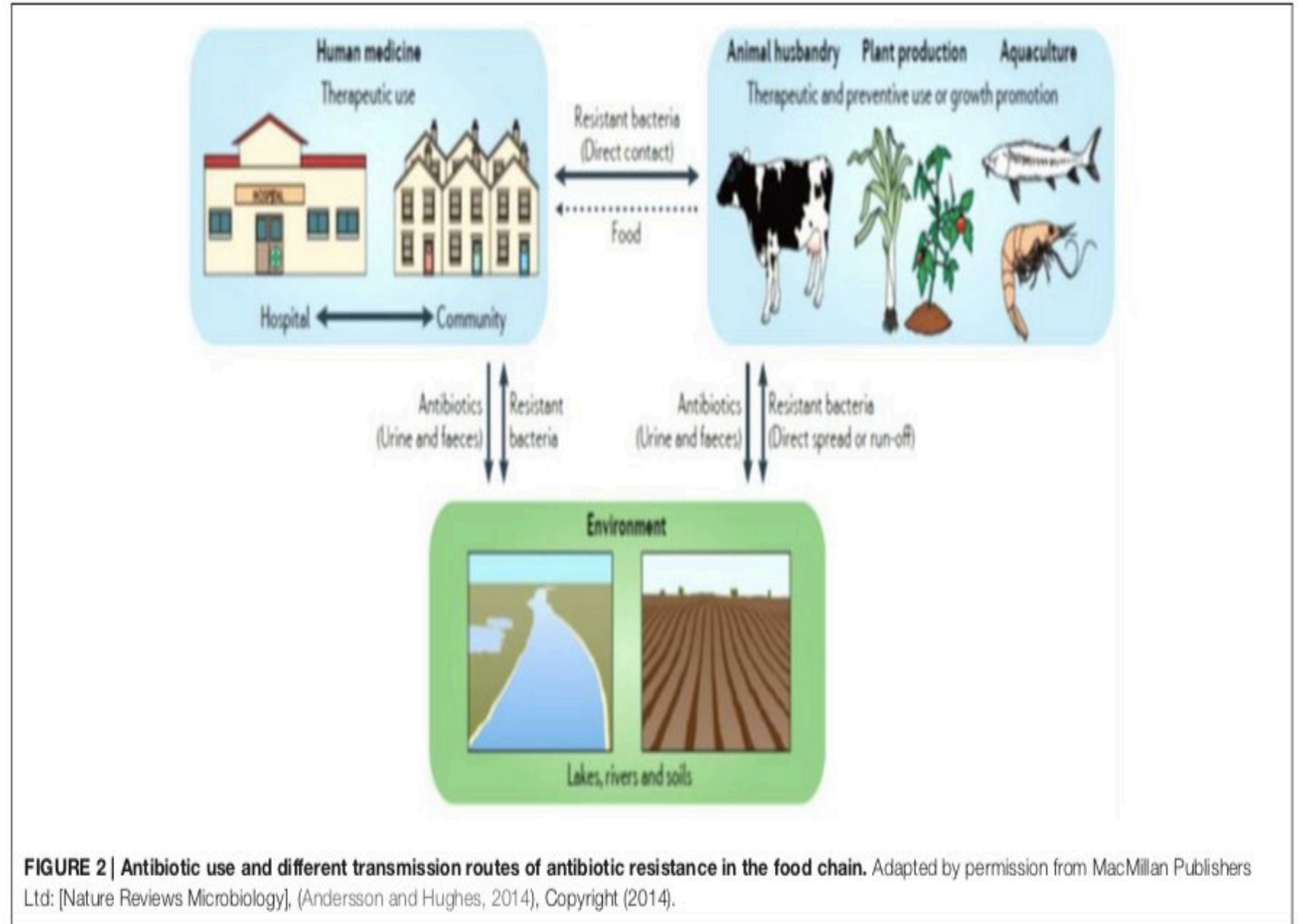
NY Costs in health & dollars: the burden of antimicrobial resistance

CDC Data --- Yearly Burden		
	US total	**New York**
deaths	23,000	1,500
illnesses	2 million	130,000
hospital costs	$20 billion	$1.3 billion

The problem with overuse is resistance: antibiotics that don't work to treat sick people

Not antibiotic residue in food

FIGURE 2 | Antibiotic use and different transmission routes of antibiotic resistance in the food chain. Adapted by permission from MacMillan Publishers Ltd: [Nature Reviews Microbiology], (Andersson and Hughes, 2014), Copyright (2014).
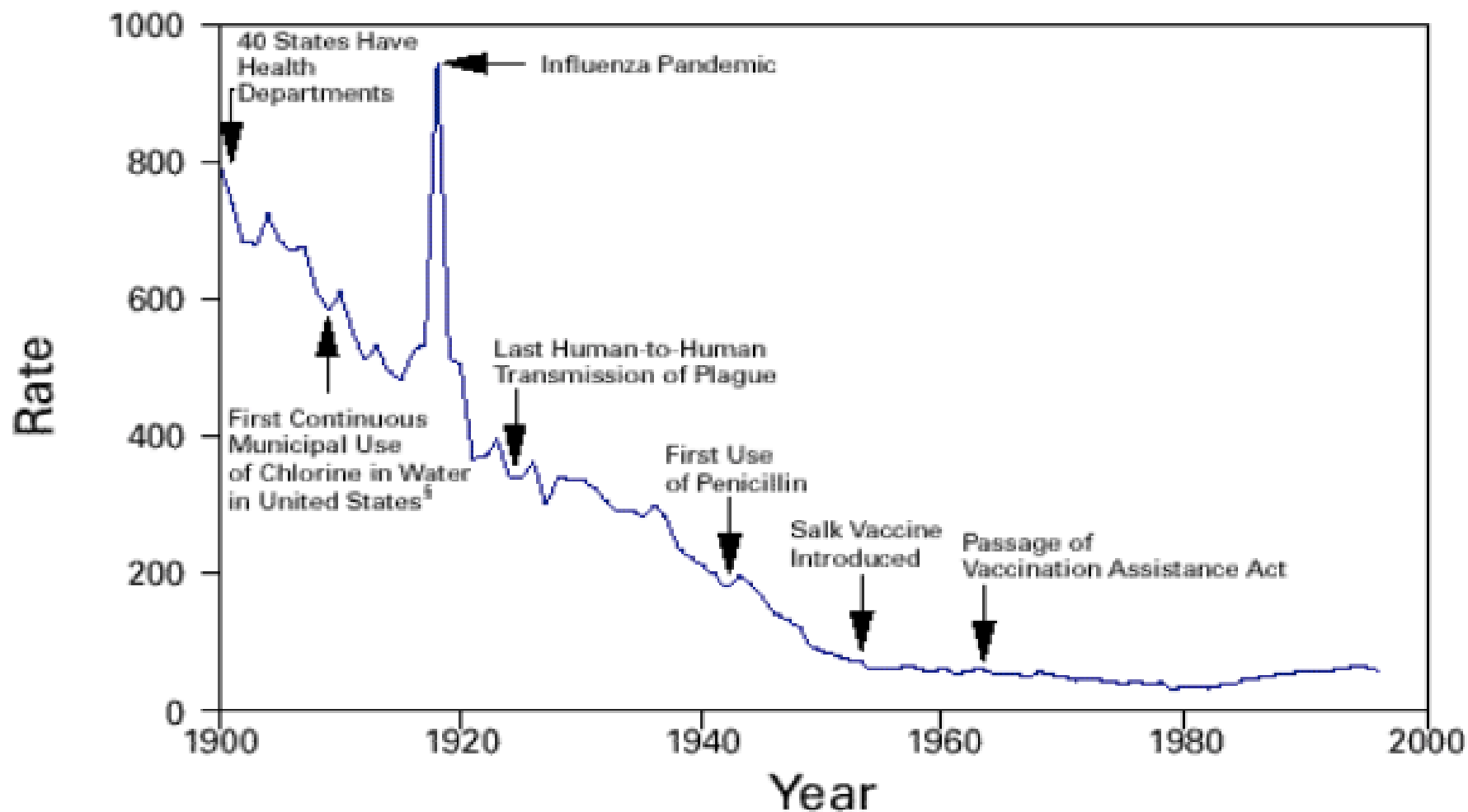
Why are antibiotics used in livestock????

- Almost all used for "prevention" or "control" of infection.

- About **65% of antibiotics in US go to livestock**
  - high rates of animal infections due to conditions and management
  - Group or herd treatment to prevent illness

How can we lower rates of animal infections??

→

Look to human history

FIGURE 1. Crude death rate* for infectious diseases — United States, 1900–1996†

*Per 100,000 population per year.
†Adapted from Armstrong GL, Conn LA, Pinner RW. Trends in infectious disease mortality in the United States during the 20th century. JAMA 1999:281;61–6.
§American Water Works Association. Water chlorination principles and practices: AWWA manual M20. Denver, Colorado: American Water Works Association, 1973.

Apply to animals what worked in people

1. **Lower infection rate with improved management.**
   Nutrition, vaccination, stress, crowding

2. **Selective treatment**
   Identify and only treat high risk animals use antibiotics
   No blanket or herd wide treatment.

Market! Market!

It drives on farm practices

Antibiotic stewardship

US GAO report:

- **the most important factor in the development of EU antibiotic policies was sustained consumer interest** in the issue of antibiotic use in food animals

Dairy cows: the major source of NY beef

- NY is dairy---600,000 milking cows
- About 30,000,000 lbs. beef per year

- Routine treatment with preventative antibiotics yearly was the norm to prevent life threatening mastitis

With **infection rate lower**,
dairy farmers can identify and
ONLY treat individual high risk cows

Selective treatment
reduces antibiotic use by
60 to 70%

- **CADE: Center for Agricultural Development and Entrepreneurship**
  - designed program, coordinated partners, and established supply chain
- **Tompkins County Schools**
- **Dr. Daryl Nydam** --- Cornell College Veterinary Medicine
- **Dairy farmers** in Finger Lakes following enhanced antibiotic stewardship practices
- **Cornell Program in Public Health—Audrey Baker**
- **Tompkins CCE** and County Farm to School Coordinator
- **Antibiotic Resistance Action Center (ARAC)** of George Washington University School of Public Health.

May 2019 Tompkins Co, beef bid specification:

To help **combat antibiotic resistance in animal and human medicine,**

meat will be sourced from farms with antibiotic practices

that not only follow all current FDA regulations but

1. **<u>also</u> lower risk of infection with improved management**

2. *and* **limit antibiotic use**
   - *to* **treat clinically ill animals**
   - *or to* **prevent** *anticipated disease in* **specific animals** *identified as being at high risk of infection."*

Four Tompkins County districts participating

- **Dryden**
- **Groton**
- **Ithaca**
- **Trumansburg**

Models for including sustainability in procurement

- Requirement---all bids must meet spec, as in Tompkins
- Point system---Buffalo planning for coming bid cycle

| Price	50 points
New York raised	20 points
Traceability to farm	10 points
Antibiotic stewardship	20 points

Beef: at the center of three of Ag's major public health and environment issues

Antibiotic resistant bacteria–cattle receive 25% of ALL antibiotics used in people and animals in

Climate change- 65% of the livestock sector's GHG emissions. 9% of total GHG output

Food security----beef can be grown on land not suited for crops

NY State has 1 million of unused farmland
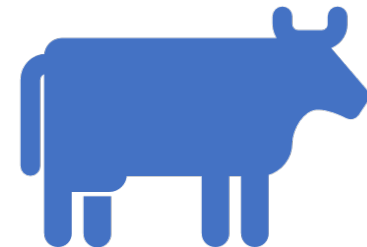
Green New Deal & Procurement

Support regional farmers following best practices

- Include "carbon services" in bid specs
- Government and business purchase of carbon offsets
  - Will create revenue stream to farmers & land owners for
    - Carbon sequestration
    - Improved methane management