Antimicrobial drugs have been widely used in human and veterinary medicine, with tremendous benefits. Antimicrobial drug use in humans and animals has led to increased resistance. Illnesses that were once easily treatable with antibiotics are becoming more difficult to cure and more expensive to treat.

Established in 1996, NARMS is a collaboration among the U.S. Food and Drug Administration, Centers for Disease Control and Prevention, and the U.S. Department of Agriculture, and state and local health departments to monitor antibiotic resistance in bacteria that are found in retail meats, humans, and food-producing animals. NARMS is a national public health surveillance program that monitors antibiotic resistance in drugs critically important to human medicine.

To accomplish its mission, NARMS conducts the following activities:

**What does NARMS do?**

- Disseminates timely information on antimicrobial resistance to promote interventions that reduce resistance among foodborne bacteria.
- Conducts research to better understand the emergence, persistence, and spread of antimicrobial resistance.
- Monitors trends in antimicrobial resistance within foodborne bacteria from humans, retail meats, and food producing animals.

**THE 3 ARMS OF NARMS**

**Retail Meats** - The retail meat component of NARMS laboratories in 18 states purchases retail meats and culture them for the target bacteria. Isolates are sent to FDA's Center for Veterinary Medicine for species and serotype confirmation, antimicrobial susceptibility testing, and genetic analysis.

**Humans** - CDC conducts nationwide surveillance of foodborne bacteria from human isolates. Antimicrobial susceptibility testing is conducted at the National Center for Emerging and Zoonotic Infectious Diseases.

**USDA Animals** - USDA collects samples from food-producing animals at slaughter in a way that is representative of national production. USDA also tests Hazard Analysis and Critical Control Points (HACCP) isolates of Salmonella collected by USDA in its oversight role to ensure hygienic practices in processing plants.

**DATA FOR MAKING DECISIONS**

2,000,000 People in the United States become infected with bacteria that are resistant to antibiotics, according to CDC's 2013 Threat Report.

**COMBATING RESISTANCE WITH SURVEILLANCE**

**BASELINE DATA**

- Surveillance collects data on antimicrobial resistance across different sources.
- The retail meat component of NARMS isolates from retail meats and sends them to the FDA.
- The human component isolates from human isolates and sends them to CDC.
- The animal component isolates from animals and sends them to USDA.
- Data is collected from human isolates at the National Health Laboratory in Canada and the CDC.

**SPREAD**

- Observations identify the spread of resistance patterns across different food sources and geographic areas.
- Data is analyzed to identify trends in the spread of resistance patterns.

**ATTRIBUTION**

- Data provided is linked to specific food sources and geographic areas to identify the spread of resistance patterns.
- Data is analyzed to determine the sources of resistance patterns.

**EDUCATION**

- Data is analyzed to identify the spread of resistance patterns.
- Data is analyzed to determine the sources of resistance patterns.

**THE RESULTS...**

NARMS produces annual summary reports on antimicrobial resistance among bacteria isolated from humans, retail meats, and food animals.

**ANNUAL SUMMARY REPORTS**

- NARMS produces summary reports that are published annually and are available online.
- Reports include an overview of antimicrobial resistance trends from humans, retail meats, and food animals.

**INTEGRATED SURVEILLANCE REPORTS**

- NARMS also produces integrated surveillance reports that consolidate data from all sources into an interactive format.
- Reports include an overview of antimicrobial resistance trends from humans, retail meats, and food animals.

**TIP**

- NARMS is a national public health surveillance program that monitors antibiotic resistance in drugs critically important to human medicine.
- NARMS is positioned to help measure the impact of FDA policy stopping the use of antibiotics for growth promotion.
- Contributed to the scientific understanding of foodborne disease through research based on NARMS findings.

**FROM DATA TO ACTION**

- NARMS provides data to inform policy decisions and public health interventions to combat antimicrobial resistance.
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**Learn more at: [NARMS website](#)**