BAD BUGS, NEED DRUGS
Why Antibiotics Deserve Congress’ Attention and Immediate Action
Infectious Diseases Society of America

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Willard N. Sears
Purple Heart, WWII
4 y.o. girl in excellent health suddenly developed facial skin infection, high fever. The infection spread leading to swelling that prevented swallowing or breathing.

On arrival to the hospital

After 14 days penicillin

Herrell ’43 Proc Staff Meetings Mayo Clinic 18:65-76
Physician Perspective

The Collective Power of Effective Antibiotics

Antibiotics caused US deaths to decline by $\sim 220$ per 100,000 in 15 years.

All other medical technologies reduced deaths by $\sim 20$ per 100,000 over the next 45 years.

Physician Perspective
The Tragedy of *Ineffective* Antibiotics: The Crisis is Now

Premature Death

- Rebecca Lohsen (17 yr)--Dead
- Mariana Bridi da Costa (22 yr)--Dead
- Carlos Don (12 yr)--Dead
- Ricky Lannetti (21 yr)--Dead

Life-altering Disability

- Addie Rerecich, 11yo
  - Double lung transplant
  - Stroke, nearly blind
  - $6 million hospital bill

- Tom Dukes colostomy, lost 8” colon

www.AntibioticsNow.org
The Crisis in Antibacterial Resistance

Geographical distribution of extreme-drug resistant *Klebsiella* bacteria

Nov, 2006

Current
Percent Extreme-drug Resistant *Acinetobacter* has risen dramatically

Lives Devastated/Lost
Due to
Antibiotic-Resistant Bacteria

While precise numbers are unknown (& the CDC works to update the impact of antibiotic resistance):

One resistant bacterium (MRSA) kills more Americans (~19,000) annually than emphysema, HIV/AIDS, Parkinson’s and homicide combined.

CDC reports: 2 million HAIs/90,000 deaths annually in U.S.
The majority due to antibiotic-resistant bacteria

Boucher HW, Bad Bugs, No Drugs, No ESKAPE CID 2009; 48:1-12
Klevens RM et al, JAMA. 2007;298:1763-1771
Additional Costs/Length of Stay Associated with Antibiotic-Resistant Bacteria

When antibiotic resistant bacterial infections are compared to antibiotic sensitive bacterial infections:
Annual cost to the US healthcare system: $21-34 billion dollars
Additional hospital days: 8 million additional days

RR Roberts, CID 2009:49, 1175-1184;
PD Maudlin, AAC 2010:54, 109-115
IDSA’s Motivation/Perspective

Our patients need new antibiotics to stay healthy and alive!

IDSA Membership
10,000 strong
Majority physicians providing clinical care, contributing to clinical care

Antibiotic Development (systemic drugs)

Primary Professional Activity

IDSA Membership
10,000 strong
Majority physicians providing clinical care, contributing to clinical care
IDSA Policy Initiatives

2004
BAD BUGS, NO DRUGS

2010
BAD BUGS, NEED DRUGS
The 10 x ‘20 initiative

2011
IDSA PUBLIC POLICY
CID 52 (Suppl 5):S397, 2011

Combating Antimicrobial Resistance: Policy Recommendations to Save Lives
Infectious Diseases Society of America (IDSA)*
IDSA recommends:

1. Adoption of Economic Incentives and Collaborative Mechanisms to Address the Market Failure of Antibiotics
2. New Regulatory Approaches to Facilitate Antimicrobial Development & Approval
3. Greater Coordination of Relevant Federal Agencies’ Efforts
4. Enhancement of Antimicrobial Resistance Surveillance Systems
5. Strengthening Activities to Prevent and Control Antimicrobial Resistance
6. Significant Investments in Antimicrobial-Focused Research
7. Greater Investment in Rapid Diagnostics R&D and Integration into Clinical Practice
8. Eliminating Non-Judicious Antibiotic Use in Animals, Plants & Marine Environments
Key Steps Congress can take to Address Antimicrobial Resistance

**STAAR Act** Strategies to Address Antimicrobial Resistance

*Awaiting Introduction/Enactment*

Will strengthen federal coordination, accountability, leadership as well as support antimicrobial stewardship efforts in health care facilities

**Strengthen the antimicrobial pipeline**

2012: Generating Antibiotics Incentives Now (GAIN, exclusivity) *Enacted.*

2013??: Still needed additional economic incentives (e.g., R&D tax credits) plus a new FDA regulatory pathway (limited population—LPAD)

**Increase funding for CDC & NIH**

Antimicrobial resistance surveillance, advanced detection methods, data collection and research

**Ban antibiotic use to fatten agricultural animals** (cows, pigs, chickens)
The Disheartening Current Status of the 10 x ‘20 Initiative
Our Goal: Your Goal
Protect This Global Treasure

Prior generations gave us the gift of antibiotics.

Today, we have a moral obligation to ensure this global treasure is available for our children and future generations.