



BAD BUGS, NEED DRUGS

Why Antibiotics Deserve Congress' Attention and Immediate Action

Infectious Diseases Society of America

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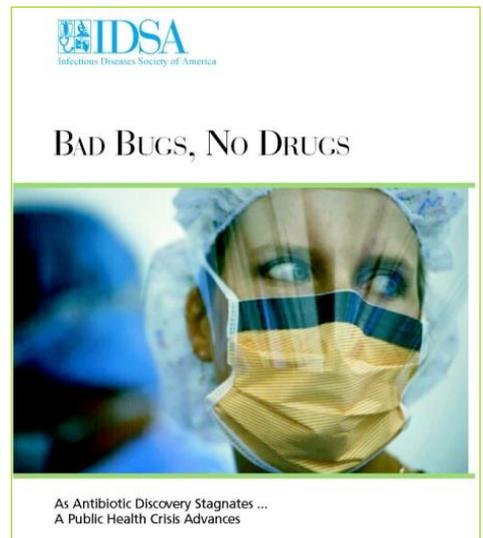
Professor of Medicine & Oncology

Johns Hopkins University School of Medicine

IDSA Treasurer



Willard N. Sears
Purple Heart, WWII



Physician Perspective

The Power of *Effective* Antibiotics: 1943 & today

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

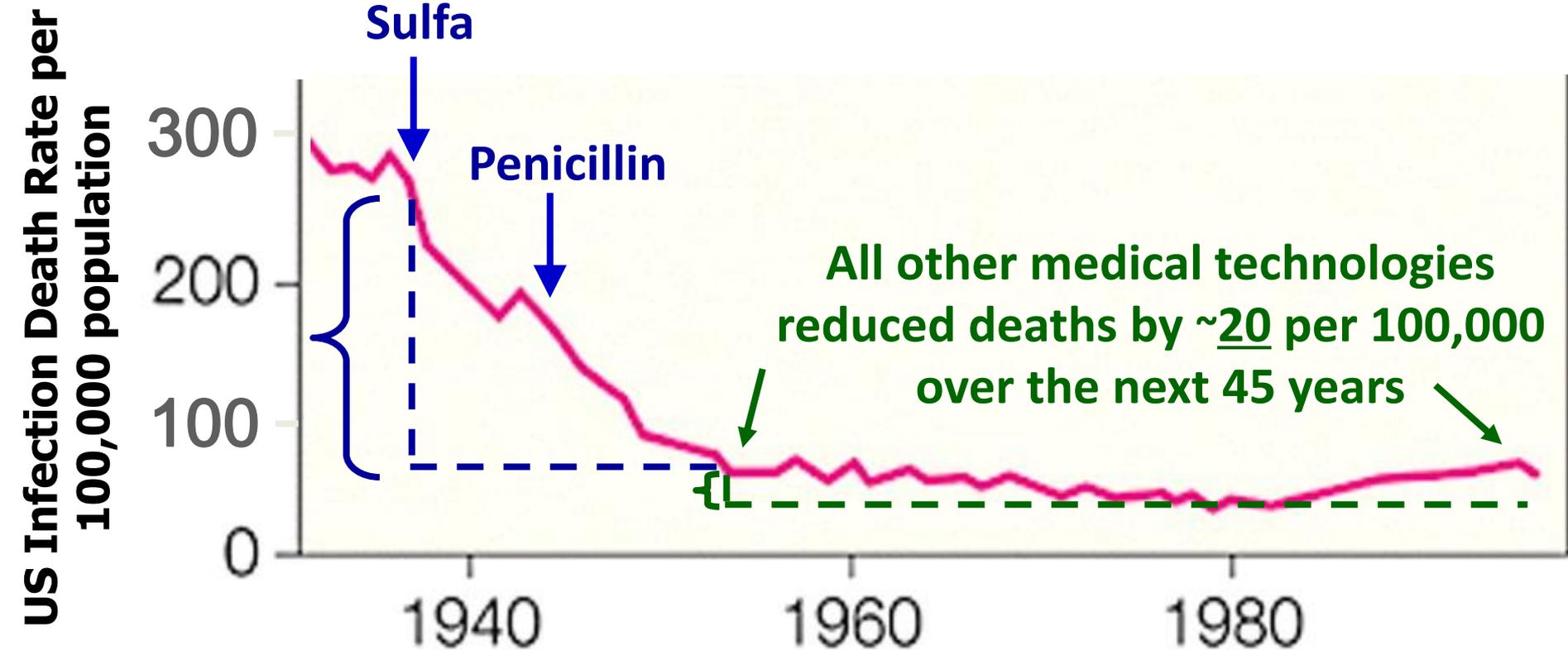


After 14 days penicillin

Physician Perspective

The Collective Power of *Effective* Antibiotics

Antibiotics caused US deaths to decline by ~220 per 100,000 in 15 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



**Tom Dukes
colostomy, lost 8" colon**

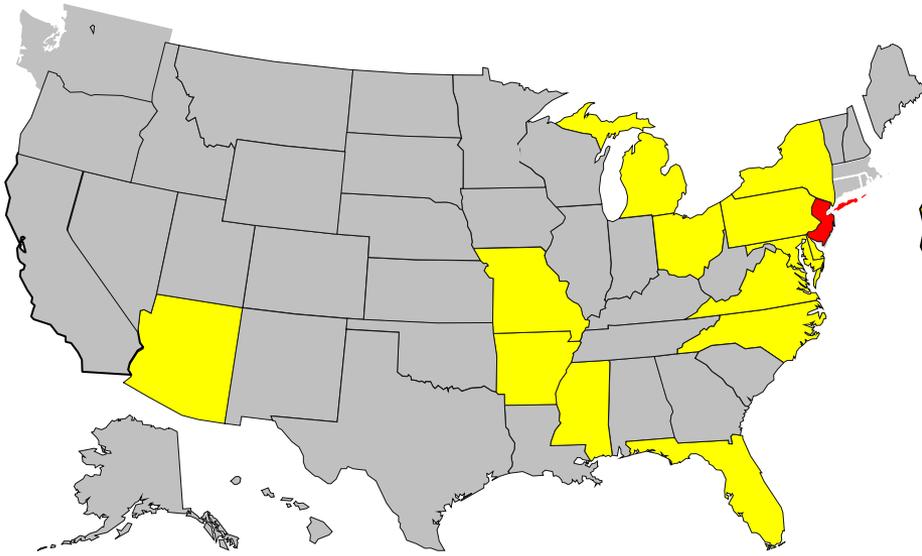


**Addie Rerecich, 11yo
Double lung transplant
Stroke, nearly blind
\$6 million hospital bill**

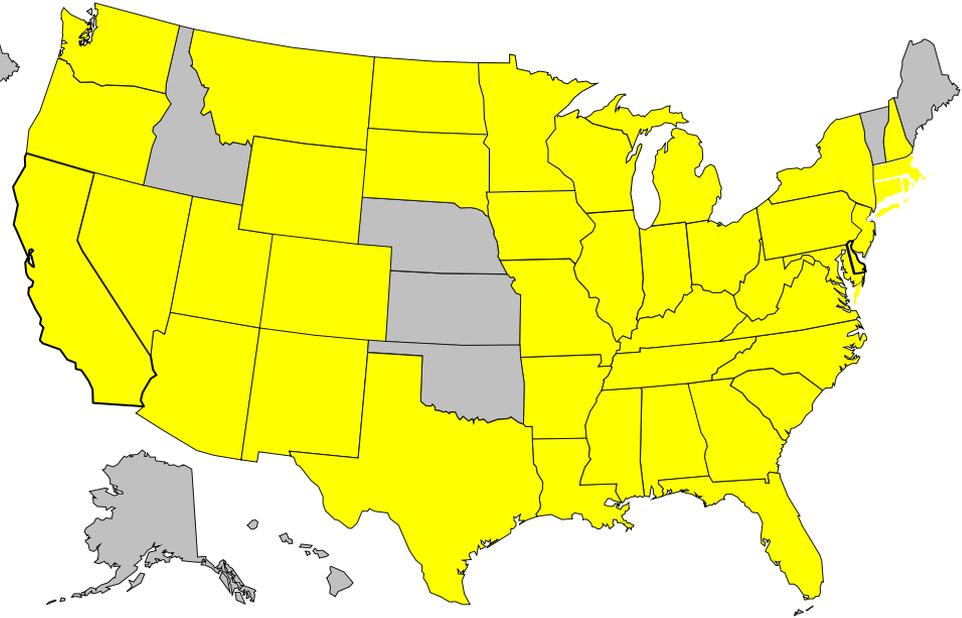


The Crisis in Antibacterial Resistance

Geographical distribution of extreme-drug resistant *Klebsiella* bacteria



Nov, 2006

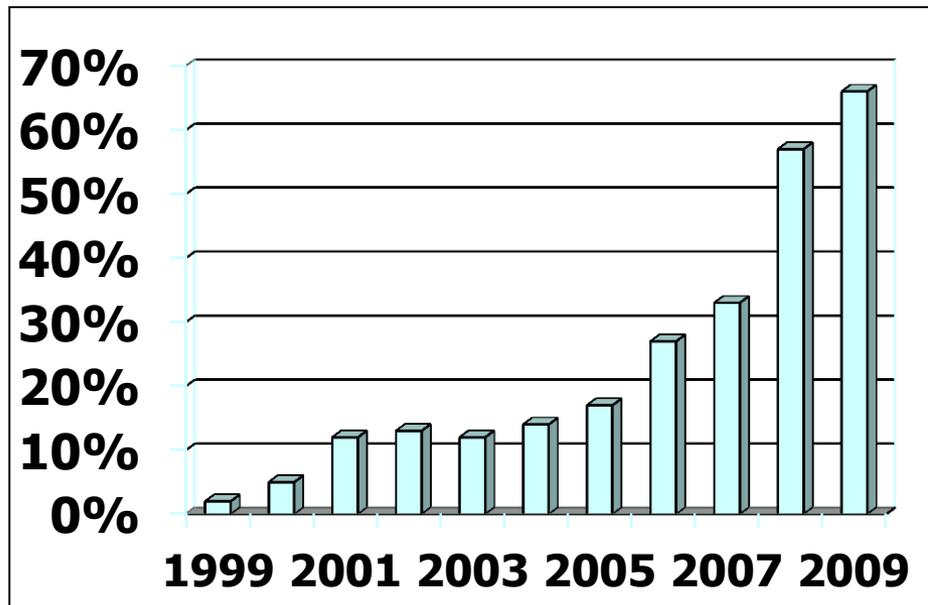


Current

Extreme-drug resistant *Acinetobacter*

Common Cause of Combat Wound Infections in US Soldiers

Percent Extreme-drug Resistant *Acinetobacter* has risen dramatically



Hoffman et al '10 ICHE 31:196-7; Higgins '10 JAC 65:233-8; Lautenbach '09 ICHE '09 30:1186-92; Rosenthal '10 Am J Infect Control 38:95-104; Hidron 'ICHE '08 29:996-1011; Dizbay '10 Scand J Infect Dis; Kallen '10 ICHE 31:528-31; NY Times

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

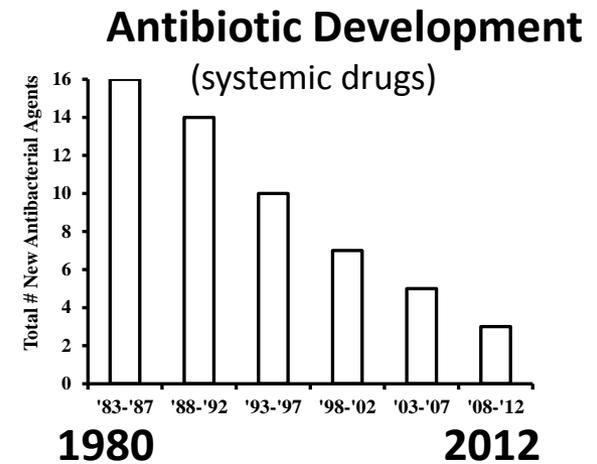
Additional hospital days: 8 million additional days

RR Roberts, CID 2009:49, 1175-1184;

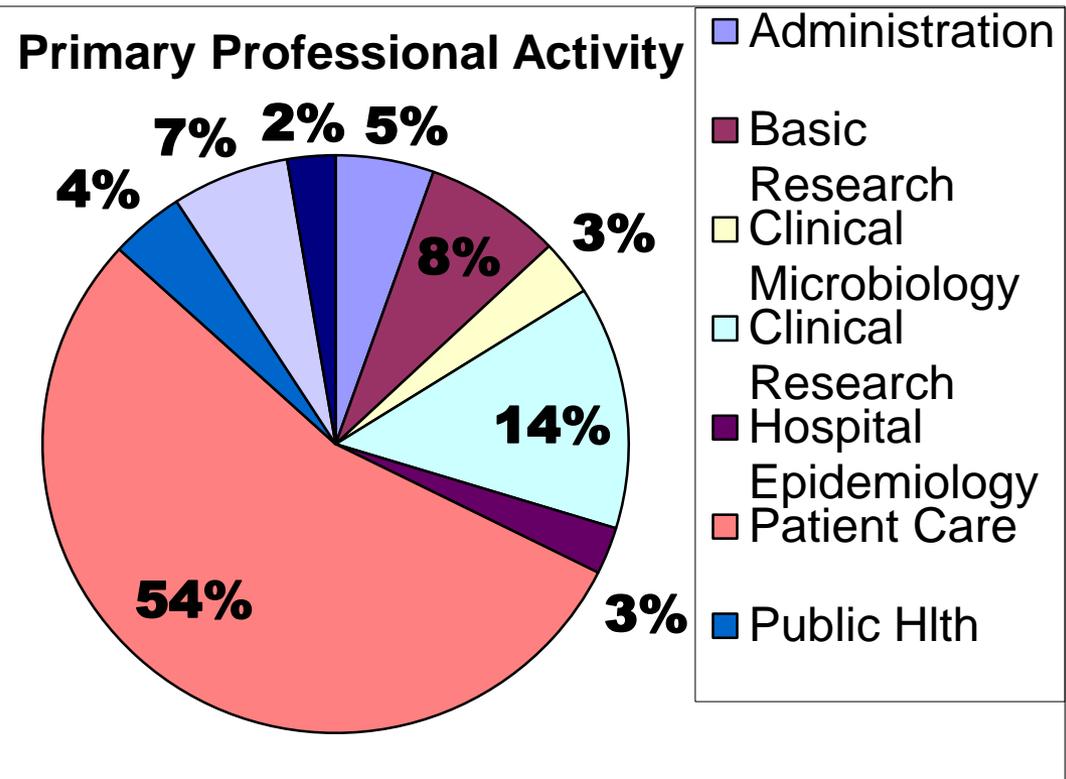
PD Maudlin, AAC 2010:54, 109-115

IDSA's Motivation/Perspective

Our patients need new antibiotics to stay healthy and alive!



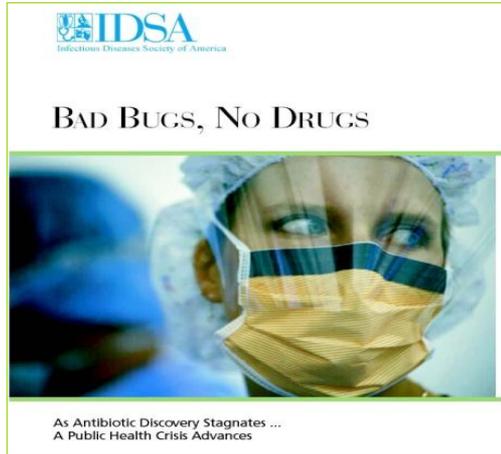
IDSA Membership
10,000 strong
Majority physicians providing clinical care, contributing to clinical care





IDSA

Policy Initiatives



2004

BAD BUGS, NO DRUGS



2010

BAD BUGS, NEED DRUGS

The 10 x '20 initiative

Combating Antimicrobial Resistance:
Policy Recommendations to Save Lives

2011

IDSA PUBLIC POLICY

CID 52 (Suppl 5):S397, 2011



recommends:

Combating Antimicrobial Resistance:
Policy Recommendations to Save Lives

CID 52 (Suppl 5):S397, 2011

Infectious Diseases Society of America (IDSA)*

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



IDSA

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: **G**enerating **A**ntibiotics **I**ncentives **N**ow (**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



10
9
8
7
6
5
4
3
2
1

Bad Bugs
Need Drugs



Ten new ANTIBIOTICS by 2020

1 **ceftaroline fosamil:** Forest Laboratories, Inc.
Approved October 29, 2010

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.

