

# Akılcı Antibiyotik Kullanımı

Dr. Okan Derin  
VM Medical Park Hastanesi  
Kocaeli

# Sunum Planı

- \* Mevcut durum
- \* İlkeler
- \* Antibiyotik kullanımının yönetimi

# Antibiyotik Direnci

The British Journal of  
EXPERIMENTAL PATHOLOGY

## ON THE ANTIBACTERIAL ACTION OF CULTURES OF A PENICILLIUM, WITH SPECIAL REFERENCE TO THEIR USE IN THE ISOLATION OF *B. INFLUENZÆ*.

ALEXANDER FLEMING, F.R.C.S.

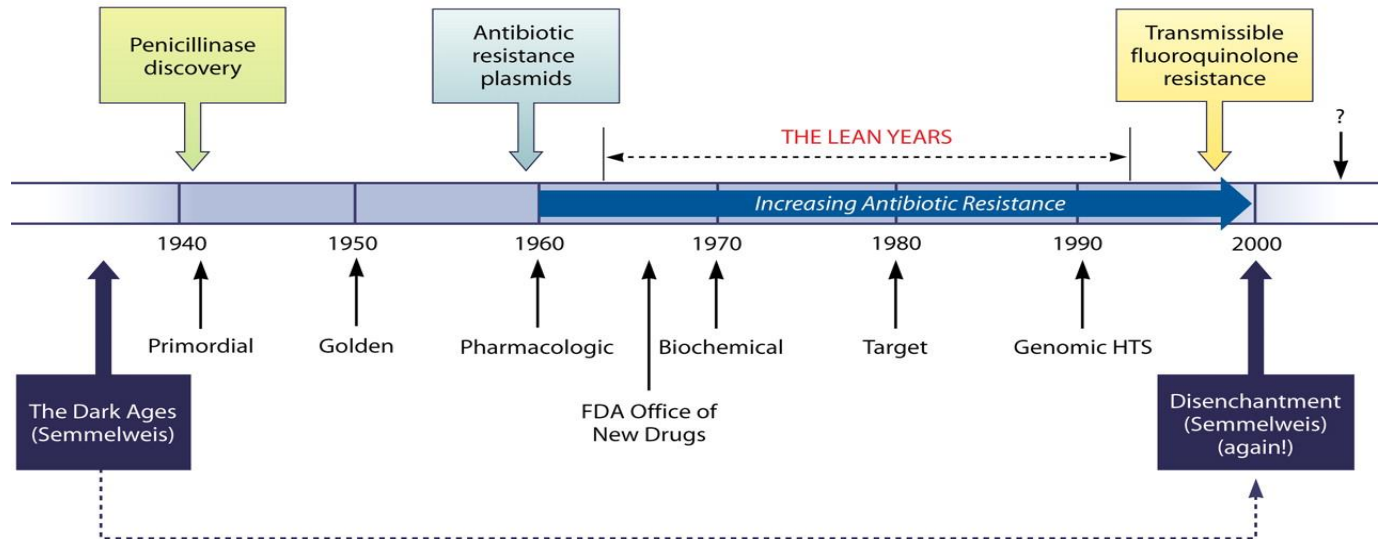
*From the Laboratories of the Inoculation Department, St Mary's Hospital, London.*

Received for publication May 10th, 1929.

WHILE working with staphylococcus variants a number of culture-plates were set aside on the laboratory bench and examined from time to time. In

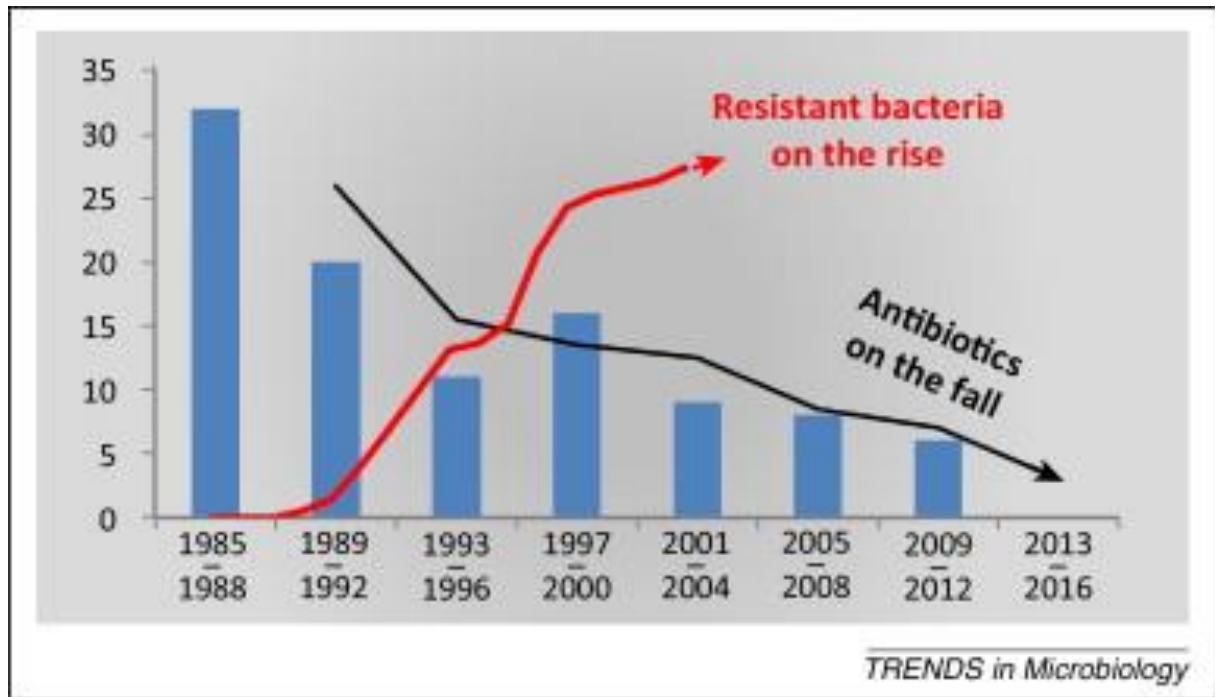
# History of antibiotic discovery and concomitant development of antibiotic resistance.

## Events in the Age of Antibiotics



Julian Davies, and Dorothy Davies Microbiol. Mol. Biol. Rev.  
2010;74:417-433

Microbiology and Molecular Biology Reviews



## Red Bugs with No Drugs – Part 3: The Need for New Antibiotics – The 10 x '20 Initiative

Posted on April 20, 2010 by CDC's Safe Healthcare Blog



[Richard Whitley, MD, FIDSA](#)

IDSA President

Sadly, the deaths and suffering caused by antibiotic-resistant infections continue to rise around the world, highlighting the urgent need for action. One of the most critical needs is the development of new antibiotics, including those to treat Gram-negative bacterial infections, caused by the “Red Bugs” Dr. Srinivasan discussed in his previous posts.

Recognizing the dangerous imbalance between the dwindling drug pipeline and the need for new antibiotics, the [Infectious Diseases Society of America \(IDSA\)](#) [↗](#) is urging a global commitment to develop 10 new antibiotics by 2020, known as the [10 x '20 initiative](#) [↗](#). You can [help us](#) [↗](#) in this important effort.



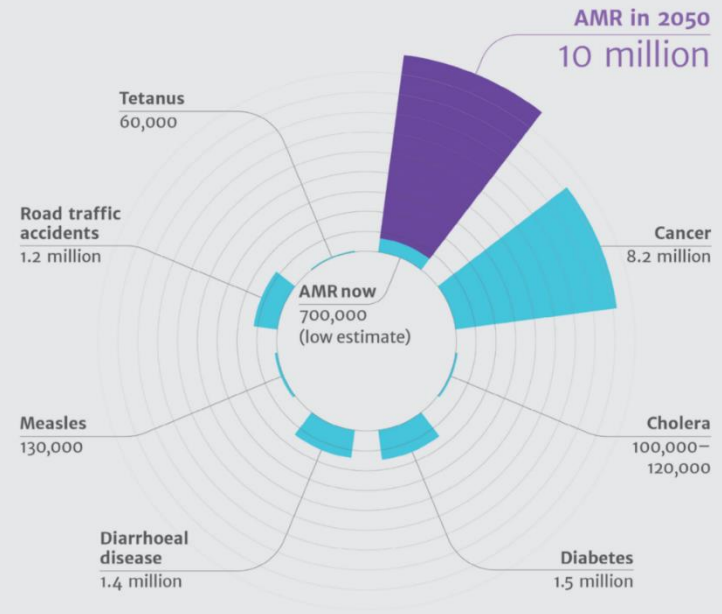
# TACKLING DRUG-RESISTANT INFECTIONS GLOBALLY: AN OVERVIEW OF OUR WORK

## THE REVIEW ON ANTIMICROBIAL RESISTANCE

CHAired BY JIM O'NEILL

MARCH 2016

Deaths attributable  
to AMR every year  
compared to other  
major causes of death



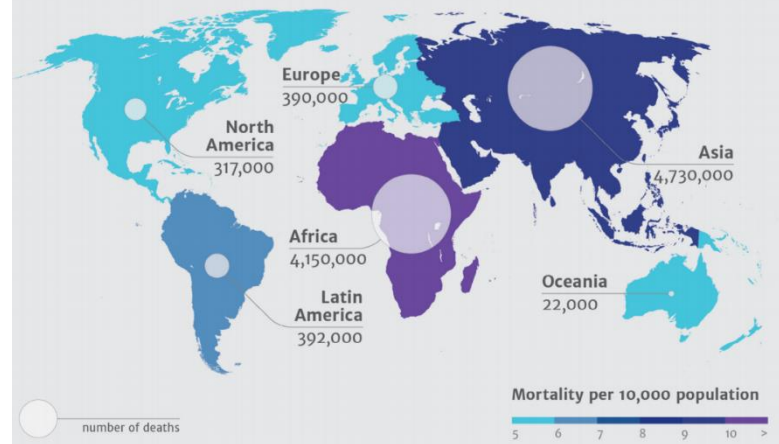
# TACKLING DRUG-RESISTANT INFECTIONS GLOBALLY: AN OVERVIEW OF OUR WORK

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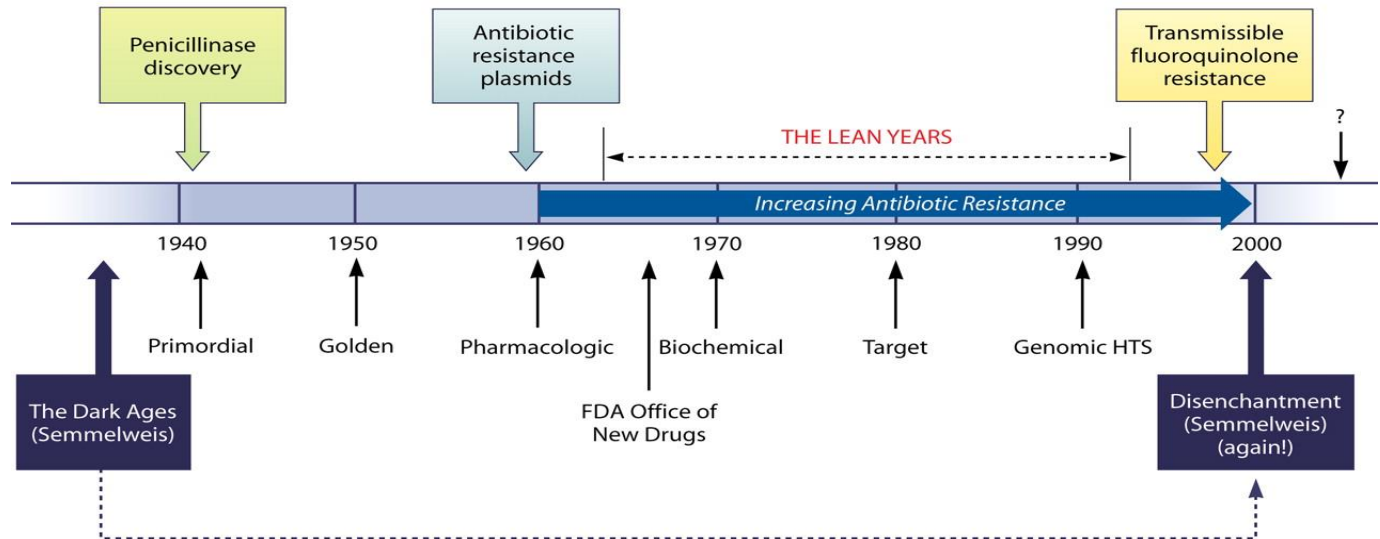
## Deaths attributable to AMR every year by 2050





# History of antibiotic discovery and concomitant development of antibiotic resistance.

## Events in the Age of Antibiotics

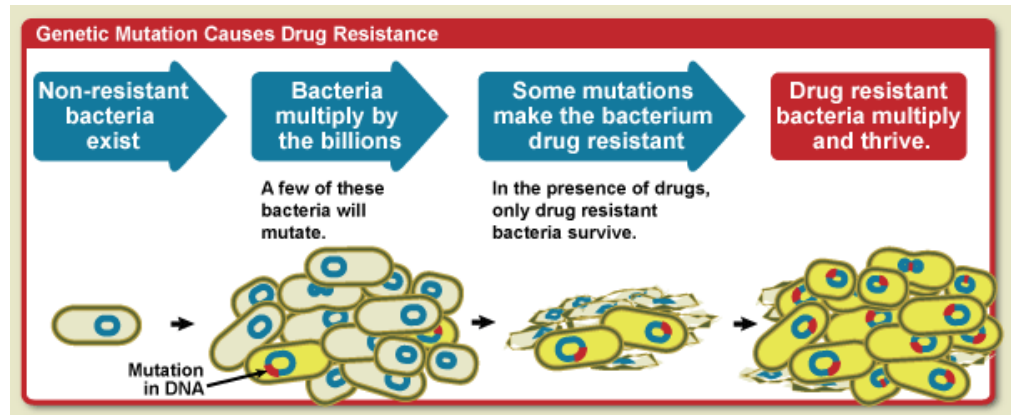


Julian Davies, and Dorothy Davies Microbiol. Mol. Biol. Rev.  
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# Antibiyotik Direnç Mekanizmaları

- \* İntrensek
- \* Ekstrenek



# İlkeler

- \* Antibiyotik endikasyonunu sorgula
- \* Uygun mikrobiyolojik örnekler al
- \* Doğru antibiyotik seç
- \* Kombinasyon tedavisi gerekli mi?
- \* Tedaviye yanıtı izleyerek gerekli değişiklikleri yaptın mı?
- \* Tedaviye başlarken hastaya ait özellikleri dikkate aldın mı?

# Hastane Bahçesinde Doktoru Demir Çubukla Dövdüler



Antalya'da  
doktora dayak  
**SEN MİSİN  
REÇETE  
YAZMAYAN**

# 1. Antibiyotik endikasyonunu sorgula

- \* Klinik ve laboratuvar yetenekleri
  - \* Empirik
  - \* Etkene yönelik
  - \* Profilaktik

## 2. Uygun mikrobiyolojik örnekler alındı mı?

- \* Antibiyotik başlamadan önce kültür
- \* Gram boyama, hızlı tanı testleri, serolojik testler
- \* İmmünolojik ve moleküler yöntemler

# 3. Doğru antibiyotik

- \* Farmakodinami/Farmakokinetik
- \* Etki spektrumu
- \* Etki mekanizması
  - \*  $MIC-MBC$
  - \*  $AUC_{24}/MIC$
  - \*  $t > MIC$
- \* Yarılanma ömrü
- \* Biyoyararlanım

## 4. Kombinasyon tedavisi

- \* Spektrumu genişletmek
- \* Sinerjistik etki elde etmek
- \* Direnç gelişimini önlemek



# 5. Tedavi izlemi

- \* Klinik ve mikrobiyolojik izlem
- \* Tedavi yanıtı/yanıtsızlığı
- \* De-eskalasyon

# 6. Hastaya ait faktörler

- \* Altta yatan hastalıkları
- \* İlaç kullanımı
- \* Yaşı
- \* İmmünolojik durumu
- \* Gebelik varlığı
- \* Yabancı cisim varlığı

# Hastanede AMS

## GUIDELINES

### Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship

Timothy H. Dellit,<sup>1</sup> Robert C. Owens,<sup>2</sup> John E. McGowan, Jr.,<sup>3</sup> Dale N. Gerding,<sup>4</sup> Robert A. Weinstein,<sup>5</sup> John P. Burke,<sup>6</sup> W. Charles Huskins,<sup>7</sup> David L. Paterson,<sup>8</sup> Neil O. Fishman,<sup>9</sup> Christopher F. Carpenter,<sup>10</sup> P. J. Brennan,<sup>11</sup> Marianne Billewicz,<sup>12</sup> and Thomas M. Hootes<sup>13</sup>

<sup>1</sup>Harvard Medical Center and the University of Washington, Seattle; <sup>2</sup>Maine Medical Center, Portland; <sup>3</sup>Emory University, Atlanta, Georgia; <sup>4</sup>Veterans Affairs Hospital and Loyola University Stritch School of Medicine, Hines, and <sup>5</sup>Stroger (Cook County) Hospital and Rush University Medical Center, Chicago, Illinois; <sup>6</sup>University of Utah, Salt Lake City; <sup>7</sup>Mayo Clinic College of Medicine, Rochester, Minnesota; <sup>8</sup>University of Pittsburgh Medical Center, Pittsburgh; and <sup>9</sup>University of Rochester, Rochester, New York; <sup>10</sup>University of Wisconsin, Madison; <sup>11</sup>University of Michigan, Ann Arbor; <sup>12</sup>University of California, San Francisco; <sup>13</sup>University of Texas Medical Branch, Galveston



## GUIDELINE

### Strategies to enhance rational use of antibiotics in hospital: a guideline by the German Society for Infectious Diseases

K. de With<sup>1</sup>, F. Allerberger<sup>2</sup>, S. Amann<sup>3</sup>, P. Apfalter<sup>4</sup>, H.-R. Brodt<sup>5</sup>, T. Eckmanns<sup>6</sup>, M. Felthauer<sup>7</sup>, H. K. Geiss<sup>8</sup>, O. Janata<sup>9</sup>, R. Krause<sup>10</sup>, S. Lemmen<sup>11</sup>, E. Meyer<sup>12</sup>, H. Mittermayer<sup>13</sup>, U. Porschke<sup>14</sup>, E. Prestieri<sup>15</sup>, S. Reuter<sup>16</sup>, B. Sinha<sup>17</sup>, R. Strauß<sup>18</sup>, A. Wechsler-Fördös<sup>19</sup>, C. Wenisch<sup>20</sup>, W. V. Kern<sup>20</sup>

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# Özetle



- **Optimizing antimicrobial therapy minimizes antimicrobial resistance and adverse drug reactions.**
- **In one large cohort study of hospitalized patients, antimicrobials were the second most common cause of adverse events.**
- **In another study, antimicrobials were the class most frequently associated with prescribing errors.**
- **Many antimicrobials have been associated with superinfection due to *Clostridium difficile*, causing morbidity ranging from diarrhea to life threatening colitis.**

- A properly framed discussion regarding implementation of a program must present usage and resistance data specific to the hospital, unit, and patient population in addition to the general issues of antimicrobial resistance.
- The main responsibility for an antimicrobial stewardship program rests on physicians and pharmacists.
- Antimicrobial stewardship must operate 24/7 to be effective.
- Educational activities are integral to successful antimicrobial stewardship – both its clinical and administrative aspects.
  - › A public-access web site is an excellent way to accomplish this.
- Active auditing of prescribing practices is essential for determining the needs and targets of intervention.

- ➔ It is highly unlikely that any antimicrobial stewardship effort could be effective in the absence of information technology support.
- ➔ An adequate, institution-appropriate budget including personnel compensation is necessary for a successful program.
- ➔ Recent payment rules from the Centers for Medicare and Medicaid Services specify that hospitals will no longer be reimbursed for certain nosocomial infections that are perceived to be avoidable. Other third-party payers are likely to follow suit.
- ➔ Restriction of selected agents is often difficult to implement:
  - › entirely unavailable (formulary-based restriction)
  - › available for only certain indications (criteria-based restriction)
  - › available only after approval by some authority (preauthorization-based restriction)

# Sonuç

- \* Çok etkenli bir yaklaşımla
- \* Uygun antibiyotik politikaları (sağlık otoritesi)
- \* Hekimlerin hızlı tanı testlerine ulaşım kolaylığı
- \* Bilinç düzeyinin arttırılması

**Sağlık İnsana Ganimettir,  
Tatlı Yemenin Sonu Diyabettir.**



# Teşekkürler



IV. ULUSAL DİYABETİK AYAK  
İNFEKSİYONLARI SİMPOZYUMU

5-7 MAYIS 2016  
HİLTON İSTANBUL KOZYATAĞI

