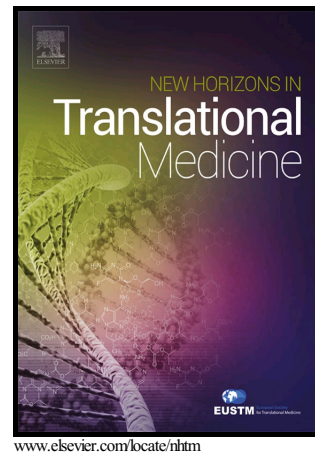


# Author's Accepted Manuscript

Pros, Cons and Future of Antibiotics

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PII: S2307-5023(17)30024-3  
DOI: <http://dx.doi.org/10.1016/j.nhtm.2017.08.001>  
Reference: NHTM50

To appear in: *New Horizons in Translational Medicine*

Received date: 14 July 2017  
Revised date: 14 August 2017  
Accepted date: 18 August 2017

Cite this article as: Elroy P. Weledji, Elizabeth K Weledji, Jules C. Assob and Dickson S. Nsagha, Pros, Cons and Future of Antibiotics, *New Horizons in Translational Medicine*, <http://dx.doi.org/10.1016/j.nhtm.2017.08.001>

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## Pros, Cons and Future of Antibiotics

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### ABSTRACT

The advantages of antibiotics have been most clearly seen in those acute bacterial infections which had a high mortality before the introduction of antibiotics. The reality of the potential harmful effects of antibiotics, both short term in individual patients and long term in favoring emergent resistance and opportunistic pathogens are discussed. Bacterial resistance makes the standard treatments ineffective, and increases the risk of infection spreading. The shortage of novel antibiotics has strengthened the efforts of genome sequencing to control bacterial resistance. The future would include novel approaches, based on a re-conceptualization of the nature of resistance, disease and prevention.

**Keywords:** antibiotics; bacterial resistance; opportunistic pathogens; novel approaches

### Introduction

Penicillin was the first scientifically noted antibiotic, i.e. chemotherapeutic agent elaborated by a micro-organism. Antibiotics have the toxic effects on bacteria by either impairing cell wall synthesis (bactericidal), impairing cytoplasmic membrane synthesis and function, or impair nucleic acid and protein synthesis (bacteriostatic). Bacteria have a tenacious hold on life and

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