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NEW STRATEGIES TO COMBAT INFECIOUS DISEASES – ANTIVIRULENCE DRUGS

Summary

The rapid emergence of resistant bacteria occurring in many parts of the world constitutes an increasing risk to public health. According to European Centre for Disease Prevention and Control (ECDC), in 2009 infections caused by a subset of resistant bacteria were responsible for about 25 000 deaths in Europe. The issue of resistance concerns both gram-positive and gram-negative pathogens that cause infections in the hospitals and in the community. The success in combat against infectious diseases depends upon development of effective anti-infective drugs. More than 20 novel classes of antibiotics were introduced into market between 1930 and 1962. Since then only two new classes of antibiotics have been approved for clinical use. This review presents recent advances toward the development of alternative medicines to classical antibiotics, antivirulence drugs, and highlights their benefits and disadvantages over conventional antibacterials. There are described both potential drugs aimed at single targets as well as those able to inhibit global cellular processes essential for virulence.