

## **Is There a Critical Need for Continued Discovery and Development of Anti-infectives? A Pharmaceutical Company Perspective**

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Infectious diseases are the second most common cause of death behind malnutrition in the developing world and are still a significant cause of morbidity and mortality in the Western World. For example, in the U.S., infectious diseases are the third most common cause of death and there are more deaths from sepsis every year than from myocardial infarctions.

Microbial pathogens attack us from all quarters as exemplified by ‘new’ pathogens (*e.g. H. pylori*, HIV and SARS), re-emerging pathogens (*e.g. M. tuberculosis*) and emerging pathogens exploiting changes in their hosts and life-styles (*e.g. Aspergillus* and *Campylobacter*).

In the face of such relentless attack, vaccines and anti-infective agents have made a huge impact on humankind, both in terms of reducing mortality and morbidity. This important armamentarium testifies to the investment in pharmaceutical and academic research and development over the years. However, such investment is declining rapidly across the industry overall (*e.g. there have been only 7 antibiotic and 3 anti-retroviral agents launched since 1998*) as a consequence of increasing commercial, regulatory and technical barriers. This could lead to the spectre of large-scale anti-microbial resistance in the absence of new agents (*e.g. MRSA and anti-retroviral drug resistance*) and to an impending public healthcare crisis.

Against this complex backdrop, the way forward to ensure continued investment in anti-infectives research and development has to be made on a broad range of fronts. These span from political and regulatory initiatives to provide incentives for investment through to harnessing new technologies to drive down costs and to increase the chances of technical success in discovery and development.

This paper will review the critical importance of continuing our fight against microbial pathogens. It will provide examples of how Pfizer is addressing some of the aforementioned barriers, including harnessing new technologies and building partnerships to increase our chances of success in discovering and developing the next generation of anti-infective therapies.