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Paying for the next generation of antimicrobials

In response to the editorial by Coast and Smith in a recent issue of *Drug Discovery Today* [1], I hope I am not dependent on the authors to deliver protection from methicillin resistant *Staphylococcus aureus* when I come to need it. The past sixty years has seen the successful development of new treatments by profit-driven private companies, and the accompanying failure of 'directly undertaking...R&D...' [1] to deliver marketable results. The 'collective action... for the reform of international patent laws...' suggested by the authors would ensure that few new molecules would be developed to meet the needs of either wealthy or poor countries.

New ideas and investment are needed if we are to keep ahead of microbial resistance, and there are some inappropriate incentives currently in place that are having undesirable results: (1) buyers have exploited the competitive market to drive down the price of classic antibiotics to the point where 'depreciation' of antibiotics (the spread of resistance) is not covered; and (2) hospitals have exploited these cheap antibiotics to save money on hygiene and patient isolation.

The cost of developing new drugs has been increasing at a median compound annual growth rate of 6% for at least the past nine years [2]. This is partly an indicator of the demand for talented researchers and trained investigators who, without the right incentives, will choose to work in therapeutic areas other than antimicrobials research.

A combination of policies is needed to deliver progress in this area: increased hospital expenditure on hygiene and patient isolation; increased use of 'expensive' new antimicrobials; increased patent protection for new antimicrobials in exchange for limits on use; and increased investment in understanding the biology of resistance.

A recent report (Scrip, No. 2813, 8th January, 2003) suggested that a new generation of antibacterials, including quinolones, carbapenems, oxalidinones, peptide deformaylase, isopentenyl pyrophosphate biosythesis inhibitors and triazole antifungals, are being developed. The pharmaceutical industry seems to be responding but low share prices suggest that there are doubts about the wisdom of current R&D investment levels. Hospitals and other public and private bodies must now spend more to protect these new agents from resistance while maintaining incentives to invest.

References

1 Coast, J. and Smith, R.O. (2003) Solving the problem of antimicrobial resistance: is a global approach necessary? *Drug Discov. Today* 8, 1–2

2 Hovde, M. Grants Manager data. Fast Track Systems (www.fast-track.com)

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Anti-angiogenesis: biology is the foundation for therapy

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The SMi conference entitled *Angiogenesis*, which was held in London, UK, on 17–19 February 2003 focused on preclinical and clinical data of various compounds interfering with blood vessel formation in tumors, an approach also termed anti-angiogenesis. The meeting provided an excellent overview regarding the latest technology development aimed at better understanding the complex biology of tumor growth and angiogenesis.

The central role of VEGF

The central role of the vascular endothelial growth factor (VEGF) during pathologic angiogenesis, combined with its restricted expression in healthy adults, has spurred the development of a variety of therapeutic strategies aimed at blocking VEGF or VEGF-induced signal transduction (reviewed in [1]). Thus, about half of the presentations focused on the clinical development of compounds targeting VEGF or signaling events induced by the VEGF receptors.

The compounds discussed included monoclonal antibodies, soluble receptor chimeras and small molecule inhibitors

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