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► **COVER:** 'Response to kinase inhibitors' by Susanne Harris, inspired by the review on p709.



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Pre-competitive collaborations between pharmaceutical companies and the public domain are becoming increasingly common in bioinformatics, in part owing to a growing appreciation that a large amount of bioinformatics data alone does not provide a substantial competitive advantage, and that enhanced public data resources could benefit everyone engaged in drug discovery, as well as reduce costs. In their Perspective, informaticians from three major pharmaceutical companies highlight existing collaborations, and discuss the opportunities and challenges for promoting further pre-competitive data sharing. Our Reviews this month cover a range of topics. Although kinase inhibition has proved to be clinically efficacious in various cancers, sensitivity seems to be restricted to certain subsets of patients. Settleman and colleagues discuss the factors, including both genomic and non-genomic features, that may contribute to the susceptibility of tumours to the effects of small-molecule kinase inhibitors and which should be considered in the development and therapeutic application of such agents. Protein methyltransferases (PMTs), which regulate gene transcription by methylating lysine and arginine residues on histones as well as other proteins, are also emerging as promising anticancer targets. The characteristics of these enzymes, their association with diseases — including cancer and inflammatory and neurodegenerative diseases — and small-molecule inhibitors of PMTs are reviewed by Copeland and colleagues. Finally, Changeux and colleagues describe recent progress in our understanding of the structure, functional organization and conformational transitions of nicotinic acetylcholine receptors, as well as advances in the development of modulators of these receptors for the treatment of nervous-system disorders, with the aim of aiding drug discovery by bridging the gap between these two areas.

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