The Engines of Hippocrates: From the Dawn of Medicine to Medical and Pharmaceutical Informatics

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A unique, integrative look at information-based medicine

The convergence of medical science, biology, pharmacology, biomedical engineering, healthcare, and information technology is revolutionizing medical and scientific practice, and has broader social implications still being understood. The Engines of Hippocrates provides a unique, integrative, and holistic look at the new paradigm of information-based medicine, covering a broad range of topics for a wide readership.

The authors take a comprehensive approach, examining the prehistory, history, and future of medicine and medical technology and its relation to information; how history led to such present-day discoveries as the structure of DNA, the human genome, and the discipline of bioinformatics; and what the future results of these discoveries may hold. Their far-ranging views are their own and not necessarily those of the IBM Corporation or other employers.

The Engines of Hippocrates helps readers understand:

• Forces shaping the pharmaceutical and biomedical industries today, including personalized medicine, genomics, data mining, and bionanotechnology
The relationship between pharmaceutical science today and other disciplines such as philosophy of health, history, economics, mathematics, and computer science.

The integrated role alternative and non-Western medicines could play in a new, information-based medicine.

Practical, ethical, organizational, technological, and social problems of information-based medicine, along with a novel data-centric computing model and a self-adaptive software engineering model, and corresponding information technology architectures, including perspectives on sharing remote data efficiently and securely for the common good.

An unmatched, cross-disciplinary perspective on the big picture of today and tomorrow's medicine, *The Engines of Hippocrates* provides a reference to interested readers both inside and outside the pharmaceutical and medical communities, as well as a peerless classroom supplement to students in a wide variety of disciplines.

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**ABOUT THE AUTHOR**

**BARRY ROBSON** is Director of Medical Research and Professor of Biostatistics, Epidemiology, and Evidence Based Medicine at St. Matthew's University School of Medicine, and CEO of The Dirac Foundation, formed with the permission of Nobel laureate Paul A. M. Dirac's widow to promote understanding of the value of theoretical physics in human and veterinary medicine. Until recently, he was Chief Scientific Officer of IBM Global Healthcare and Life Sciences, and then Global Pharmaceutical and Life Sciences, an IBM Distinguished Engineer, and previously, Strategic Advisor at IBM Research headquarters.

**O. K. BAEK** is a Senior Solutions Architect at IBM, specializing in healthcare and with a passionate interest in the benefits and long-standing logic of Oriental medicine. He is particularly interested in the development of novel architectures for sharing and using medical information securely, and in translational research, the matter of rapidly delivering the results of medical research and genomics to enhance everyday clinical decisions.

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