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# Bayesian Design in Clinical Trials

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## Message from the Guest Editors

The Bayesian methodology is well-suited to address the issues arising in the planning, the analysis, and the conduct of clinical trials. Due of their flexibility, Bayesian design methods based on the accrued data of on-going trials have been recommended by both the US Food and Drug Administration (FDA) and the European Medicines Agency for dose–response trials in early clinical development. More generally, since the inherent adaptive nature of Phase I and Phase II designs, the Bayesian approach tends to be more efficient.

Another distinctive feature of the Bayesian approach is that it naturally allows for dealing with external information, such as historical data, findings from previous studies, and expert opinions through prior elicitation. In fact, it provides a framework for embedding and handling the variability of such auxiliary information within the planning and analysis of the study. A growing body of literature examines the use of historical data to augment newly collected data, especially in clinical trials where patients are difficult to recruit. Many works describe the importance of using the available data in clinical trials and how this can be done properly.

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## Message from the Editor-in-Chief

Addressing the environmental and public health challenges requires engagement and collaboration among clinicians and public health researchers. Discovery and advances in this research field play a critical role in providing a scientific basis for decision-making toward control and prevention of human diseases, especially the illnesses that are induced from environmental exposure to health hazards. *IJERPH* provides a forum for discussion of discoveries and knowledge in these multidisciplinary fields. Please consider publishing your research in this high quality, peer-reviewed, open access journal.

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