The Journal of Clinical Pharmacology http://jcp.sagepub.com/

The Emerging Scientific Discipline of Pharmacometrics

Marc Pfister and David Z. D'Argenio *J Clin Pharmacol* 2010 50: 6S DOI: 10.1177/0091270010377789

The online version of this article can be found at: http://jcp.sagepub.com/content/50/9_suppl/6S

Published by:

\$SAGE

http://www.sagepublications.com

On behalf of:



American College of Clinical Pharmacology

Additional services and information for The Journal of Clinical Pharmacology can be found at:

Email Alerts: http://jcp.sagepub.com/cgi/alerts

Subscriptions: http://jcp.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

>> Version of Record - Sep 10, 2010

What is This?

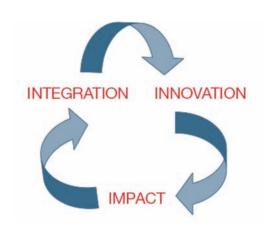
The Emerging Scientific Discipline of Pharmacometrics

This supplement to the *Journal of Clinical Pharmacology* includes work presented at the first two meetings of the American Conference on Pharmacometrics in Tucson, Arizona (2008), and Mystic, Connecticut (2009), along with other invited contributions. The articles that comprise this supplement provide only a small sample of the diverse directions, perspectives, challenges, opportunities, and aspirations of the emerging scientific discipline of pharmacometrics.

Pharmacometrics has expanded far beyond its initially defined focus on the analysis of measurements (metrics) associated with pharmacokinetics and biopharmaceutics. As an emerging quantitative science, pharmacometrics spans the spectrum from basic research into disease and mechanisms of drug action to the rational use of medicines in patient care. Quantitative modeling and simulation provide the foundation for this multidisciplinary effort that involves basic and applied university researchers, industry drug development scientists and decision makers, government regulatory scientists, clinicians, and other health professionals.

Although the domain of pharmacometrics continues to broaden, three overarching themes are clearly guiding this evolution. These are Integration, Innovation, and Impact: (1) quantitative integration of multisource data and knowledge through the application of clinical, biomedical, biological, engineering, statistical, and mathematical concepts, resulting in (2) continuous methodological and technological innovation enhancing scientific understanding and knowledge, which in turn (3) has an impact on discovery, research, development, approval, and utilization of new medicines. The triplet of Integration-Innovation-Impact forms a circle of excellence (the logo of this supplement shown above right) that can provide the fuel of self-renewal that is necessary to expand pharmacometrics as a vibrant scientific discipline.

This supplement is organized based on the themes of *Integration–Innovation–Impact* as outlined in the table of contents. The contributions include commentaries, white papers, reviews, and original research articles. We hope that this issue will stimulate the DOI: 10.1177/0091270010377789



new thinking necessary to ensure the success and growth of pharmacometrics.

We wish to acknowledge the leadership of the American College of Clinical Pharmacology for the opportunity to provide this supplement, including Michael Reed, president; Stephen Keith, CEO; and James Burris, publication committee chair. The encouragement and guidance of the editors of the Journal of Clinical Pharmacology, Dan Sitar, editorin-chief, and Hartmut Derendorf, associate editor, have been essential to this publication. It is with great pleasure that we acknowledge Marjory Spraycar, editorial manager of ICP, for her professionalism and patience in all facets of the production of this supplement. Finally, we thank the more than 60 authors for their excellent contributions as well as the 40 committed reviewers for providing thorough and prompt reviews of the manuscripts.

> Marc Pfister, MD David Z. D'Argenio, PhD Guest Editors

Financial disclosure: the articles in this supplement are sponsored by the American Conference on Pharmacometrics.

REFERENCE

1. Benet LZ, Rowland M. Pharmacometrics: a new journal section. J Pharmacokin Biopharm. 1982;10:349-350.

For reprints and permission queries, please visit SAGE's Web site at http://www.sagepub.com/journalsPermissions.nav.