

January 18, Michael Liebman, Critical Understanding for Translational and Precision Medicine



SYNOPSIS:

Significant research efforts and resources are being directed towards the development of methodologies and data to support the Precision Medicine and the Cancer Moonshot Initiatives and to utilize these as the basis for translational medicine. Most of these focus on the development and implementation of technology that integrates genomics into clinical practice and/or the development of new diagnostics and therapeutics. The success of these efforts may be hindered by a lack of appreciation of the complexities present in real world clinical practice, e.g., quality and adherence to clinical guidelines, and real world patients, e.g., co-morbidities and poly-pharmacy. We have been developing and implementing system-based modeling approaches to facilitate the evaluation of these critical factors to enhance the goal of delivering the right care to the right patient.

The approach that we have developed, in collaboration with the Epidemiology and Health Research Department at the National Research Council of Italy (CNR-Pisa) involves the development of a Disease Process Model and its instantiation as an ontology implemented in a web-based platform. This disease-agnostic model has been successfully applied in drug and

diagnostic development, clinical trial design (and evaluation), risk evaluation and clinical decision support applications. An additional critical component of this modeling approach incorporates the patient's underlying physiological development and the reality that risk, particularly to lifestyle and environmental factors, will vary throughout a patient's lifetime and stage of development. This presentation will address the gap between unmet clinical need and unstated, unmet clinical and provide examples from our work in breast cancer, pediatric Acute Respiratory Distress Syndrome (pARDS) and heart failure.

[Session details...](#)

BIO:

Michael N. Liebman, Ph.D. (theoretical chemistry and protein crystallography) is the Managing Director of IPQ Analytics, LLC and Strategic Medicine, Inc., after serving as the Executive Director of the Windber Research Institute from 2003-2007. Dr. Liebman is an Adjunct Professor of Pharmacology and Physiology at Drexel College of Medicine and Adjunct Professor of Drug Discovery, First Hospital of Wenzhou Medical University. Previously, he was Director, Computational Biology and Biomedical Informatics, University of Pennsylvania Cancer Center. He served as Global Head of Computational Genomics, Roche Pharmaceuticals and Director, Bioinformatics and Pharmacogenomics, Wyeth Pharmaceuticals, Director of Genomics for Vysis, Inc. He is a co-founder of ProSano, Inc. (now United BioSource). He was Associate Professor of Pharmacology and Physiology/Biophysics at Mount Sinai School of Medicine.

Dr. Liebman also serves on 14 scientific advisory boards and the Board of Directors of the Nathaniel Adamczyk Foundation in Pediatric ARDS and Innovene Pharmaceuticals. He is Chair of the Informatics Program and also Chair of Translational Medicine and Therapeutics for the PhRMA Foundation and a member of their Scientific Advisory Board. He is on the Advisory Board of the International Society for Translational Medicine and on the Editorial Board for the Journal of Translational Medicine, for Clinical and Translational Medicine and for Molecular Medicine and Therapeutics, for Clinico-Economics and Outcomes Research and Biomedicine Hub, and the International Park for Translational Biomedicine (Shanghai). Dr. Liebman is a member of the IUPAC Division on Human Health's Medicinal Chemistry subcommittee. He has served on the External Advisory Board for the INBRE (NIH) program for the state of Delaware since 2000 and is an Invited Professor at the Shanghai Center for Bioinformatics Technology. His research focuses on computational models of disease progression stressing risk detection, modeling both disease processes and pathways and disease vs. patient stratification and risk/benefit analysis in pharmaceutical development and healthcare.

SUMMARY:

Topic: Real World Medicine and Real World Patients: Critical Understanding for Translational and Precision Medicine

Speaker: Michael N. Liebman, Ph.D.

Date: Wednesday, January 18, 2017

Time: 11 AM – 12 PM ET

You are invited to listen to Dr. Liebman's presentation in the NCI Shady Grove Building on Medical Center Drive or via WebEx.

Presentation: A screen cast of the presentation will be available for viewing after the event on the [NCI CBIIT Speaker Series YouTube Playlist](#) 

About the NCI CBIIT Speaker Series:

The National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT) Speaker Series presents talks from innovators in the research and informatics communities. The biweekly presentations allow thought leaders to share their work and discuss trends across a diverse set of domains and interests. The goals of the Speaker Series are: to share leading edge research; to inform the community of new tools, trends, and ideas; to inspire innovation; and to provide a forum from which new collaborations can begin. For additional information, including past speaker series presentations, visit the [CBIIT Speaker Series page](#).

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