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Preparing Medical Directors for the Genomics Age

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Preparing Medical Directors for the Genomics Age

The completion of the human genome map in June 2000 marked the beginning of a revolution in medicine, giving physicians the material they need to predict, prevent, and even treat disease. Already scientists have used the map to identify genes responsible for dozens of inherited diseases, including breast cancer, cystic fibrosis, epilepsy, and diabetes.

The rapidly advancing field of genomics invariably raises numerous questions for health professionals: What new therapies and technologies can be expected? When can they be expected? How will they affect health care delivery? These and other questions were addressed at the Office of Health Policy's Managed Care Summit: Preparing Medical Directors for Decision Making in the Genomics Age. On March 8th, medical directors from around the country assembled on the Jefferson campus to discuss the clinical, ethical, and economic perspectives of the genomics revolution and its potential impact on health care.

Glenna Crooks, PhD, President and CEO of Strategic Health Policy International, set the context for the forum with a discussion of the future of health care in this country. According to Dr. Crooks, patients have "given up on the health care system" and are becoming increasingly engaged in their own care. Physicians, too, are shifting perspective, feeling ever more "overwhelmed and apologetic about what they do." Such changes in perspective, she said, have led to warfare within the healthcare system and pose new challenges for physicians in their relationships with patients.

Genomics is expected to play a significant role in this evolving health care arena, where one of the major issues is the safety of prescription drugs. "ADRs (adverse drug reactions) have hit the radar screen at a higher rate than ever before," said presenter David A. Flockhart, MD, PhD, Professor of Medicine and Director, Pharmacogenetic Core Laboratory, Indiana University School of Medicine. Dr. Flockhart offered a clinical perspective of one of the outgrowths of genomics–pharmacogenomics, the science of designing and prescribing drugs according to an individual's genetic make up. Pharmacogenomics is advancing quickly, he said, and "precision prescriptions" have great potential to improve the effectiveness of drug therapy and reduce dangerous ADRs.

Along with the potential benefits of genomics come potential risks, said Paul Root Wolpe, PhD, Senior Fellow of the Center of Bioethics at the University of Pennsylvania and Chief of Bioethics for the National Aeronautics and Space Administration. Dr. Wolpe discussed the ethical challenges to pharmacogenomics, which include protecting privacy and confidentiality of genetic information and preventing stigma based on an individual's pharmacogenetic profile. The role of bioethics, he said, is not to stop genetic advances but to direct them to try to minimize harm to patients and to society.

Another challenge facing genomics is achieving optimal therapeutic outcomes in a cost-effective manner, according to Earl P. Steinberg, MD, MPP, President, Resolution Health, Inc. and Adjunct Professor of Medicine and Health Policy and Management, Johns Hopkins University. The cost impact of genomics will vary with each application, he said, and will depend in large part on how the technology is used by clinicians, i.e., cost of testing, accuracy of testing, and how often testing is

performed. Dr. Steinberg predicted a need for computerized decision support tools to advise both clinicians and patients regarding the availability of genomic tests, the interpretation of test results, and treatment options based on those results.

In a presentation by Scott L. Rakestraw, PhD, Executive Director and Head of Corporate Development for Orchid GeneShield, focus groups conducted by his company revealed that physicians believe that genomics is likely to emerge as a critical aspect of care. They expressed a need for more information regarding genetic-related drug safety issues. The patients who were interviewed also showed a strong interest in safety issues. In fact, in their view, the potential drug safety benefits outweigh the privacy issues associated with genomic testing.

Predictions vary as to when we can expect to reap the clinical benefits of genomics. According to Patricia Deverka, MD, MS, Vice President of Scientific Affairs at Merck-Medco, by 2004, we will begin to see the development of pharmacogenomic tests to predict drug responsiveness, along with the approval of several genomics-based drug candidates. And, while there are no definitive answers regarding the effect that genomics will have on clinical practice, said Dr. Deverka, it promises to be an exciting era for health care professionals.

The Medical Directors Summit was co-sponsored by the Office of Continuing Medical Education and was supported by an unrestricted grant from GlaxoSmithKline. Information about upcoming events sponsored by the Office of Health Policy can be found at http://www.jefferson.edu/ohp.

About the Author

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