Biomedical Informatics: A Vision for the Next 10 Years of Innovation

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The scientific discipline of Biomedical Informatics has and continues to serve as a catalyst for the discovery, study, and delivery of innovative solutions to data, information, and knowledge management needs in the biomedical and healthcare domains. Biomedical Informaticians use domain-specific theories and methods to interpret and reason upon complex data in order to deliver contextually appropriate information and knowledge at multiple end-points, such as the laboratory, point-of-care, or community settings. As can be readily ascertained, this continuum of data, information, and knowledge management is central to the premises underlying emergent priorities in the areas of healthcare transformation, big data, systems thinking, and translational science. In this presentation, we will review the origins and history of the current state-of-the-art in Biomedical Informatics, and then go on to explore future opportunities for the pursuit of innovative solutions that are responsive to the preceding priority areas. Critical areas of research and development to be covered in this survey include:

* Translational bioinformatics
* *in silico* Hypothesis Discovery
* Evidence Generating Medicine (and the Learning Healthcare System)
* Cognitive and Predictive Analytics
* Workflow and Human Factors
* Implementation Science
* Workforce Development

**Dr. Payne’s presentation from August 20 is available** [**on YouTube here**](http://youtu.be/ZxYFCkjWKZg)**.**

# About the Speaker:

Dr. Payne is a Professor and Chair of the Department of Biomedical Informatics at The Ohio State University Wexner Medical Center (OSUWMC). He is also an Adjunct Professor of Health Services Management and Policy within the OSU College of Public Health, Associate Director for Data Science within the OSU Center for Clinical and Translational Science (CCTS), and Co-Director of the Bioinformatics Shared Resources within the OSU Comprehensive Cancer Center (CCC). Dr. Payne is an internationally recognized leader in the field of clinical research informatics (CRI), and leads the Department of Biomedical Informatics Laboratory for Knowledge Based Applications and Systems Engineering (KBASE). His research portfolio is actively supported by a combination of NCATS, NLM, and NCI grants and contracts, as well a variety of awards from both non-profit and philanthropic organizations. Dr. Payne received his Ph.D. with distinction in Biomedical Informatics from Columbia University, where his research focused on the use of knowledge engineering and human-computer interaction design principles in order to improve the efficiency of multi-site clinical and translational research programs. Prior to pursuing his graduate training, Dr. Payne served in a number of technical and leadership roles at both the UCSD Shiley Eye Center and UCSD Moores Cancer Center. Dr. Payne’s leadership in clinical research informatics community has been recognized through his appointment to numerous national steering and advisory committees as part of the American Medical Informatics Association (AMIA), Association for Computing Machinery (ACM), National Cancer Institute (NCI), National Library of Medicine (NLM), and the CTSA consortium, as well as his engagement as a consultant to academic health centers throughout the United States and the Institute of Medicine. Dr. Payne is the author of over 140 publications focusing on the intersection of biomedical informatics and the clinical and translational science domains, including several seminal reports that have served to define a new sub-domain of biomedical informatics theory and practice specifically focusing upon clinical research applications. Recently, Dr. Payne led the formation of Signet Accel LLC, a partnership between OSU and Signet Ventures focusing on the commercialization of a portfolio of data sharing and collaborative analytics technologies developed within the OSU Department of Biomedical Informatics.