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a disease), and the physician whilst managing the Biobank services can reasonably select of preventive and/or prophylactic protocol, proceeding from the assays made. Individuals, selected at the first stage, undergo the second phase of the survey, which uses a panel of phenotypic biomarkers and biopredictors to get a stage of subclinical & predictive diagnostics finalized.

In many pathologies, subclinical (pre-disease) conditions can now be identified (e.g., pre-hypertension, pre-T1D etc.), states which imply increased for a patient, and in some cases, with an accompanying opportunity to engage in pre-early preventive and/or prophylactic strategies (e.g., exercise prescriptions, dietary changes, medications) which can reduce the risk of progression. Some of pre-disease states which represent significantly increased risk of future adverse health outcomes, identifying reliable biomarkers of these pre-disease states, and developing the key challenges in this paradigm of disease screening are in identifying useful therapeutic strategies to offer individuals should they receive a pre-disease diagnosis. The aforementioned is can enable the identification of the “key drivers” of pathology, which may represent novel therapeutic targets or biomarker candidates that play a more direct role in the etiology of disease.

Meanwhile, while some methods (e.g., the use of disease biomarkers to drive treatment choices) already reflect a standard of care within certain areas of medicine, other areas (e.g., the modeling of causal disease networks) which do not yet routinely impact clinical care, are expected to add insight to the identification of high quality drug targets to inform drug development, as well as guiding the interpretation of individual genetic variation in creating tailored therapeutic strategies.

The development of safe and effective targeted medicine is obviously needed. The latter would include methods for data-driven disease classification, drug repositioning, identification of disease biomarkers, and the creation of disease network models, each with significant impacts on drug development approaches. However, the current biopharma development pipeline is not presently well poised to meet this need.

An important bottleneck in the application of updated technologies in translational research is the lack of educated investigators who are versed in both biomedical domains and informatics. For instance, it would be extremely useful to integrate data harvesting from different data- and biobanks for applications such as prediction and personalization of further treatment. Medical practitioners will be able to thus provide more tailored prevention and treatment programs for their patients resulting in improved patient outcomes, reduced adverse events, and more cost effective use of health care resources. Use of PPPM is categorized into predictive and preventive medicine and personalized treatment optimization. The latter refers to pharmacogenomics which aims to match the best available drug or dose to an individual's genomic profile.

So PPPM whilst utilizing a highly promising concept of biomarkers and biopredictors to be translated into the daily practice, would offer great and real challenge for the future, and next generations will speak about the XXI century as a time, when healthcare services became predictive and preventive whilst utilizing translational armamentarium, and its outcomes – secured and guaranteed!

Biography

Sergey Suchkov was born in 11.01.1957, a researcher-immunologist, a clinician, graduated from Astrakhan State Medical University, Russia, in 1980. He has been trained at the Institute for Medical Enzymology, The USSR Academy of Medical Sciences, National Center for Immunology (Russia), NIH, Bethesda, USA) and British Society for Immunology to cover 4 British university facilities. Since 2005, he has been working as Faculty Professor of I.M. Sechenov First Moscow State Medical University and Of A.I. Evdokimov Moscow State Medical & Dental University. From 2007, he is the First Vice-President and Dean of the School of PPPM Politics and Management of the University of World Politics and Law. In 1991-1995, He was a Scientific Secretary-in-Chief of the Editorial Board of the International Journal “Biomedical Science” (Russian Academy of Sciences and Royal Society of Chemistry, UK) and The International Publishing Bureau at the Presidium of the Russian Academy of Sciences. In 1995-2005, he was a Director of the Russian-American Program in Immunology of the Eye Diseases. He is a member of EPMA (European Association of Predictive, Preventive and Personalized Medicine, Brussels-Bonn), a member of the NY Academy of Sciences, a member of the Editorial Boards for Open Journal of Immunology and others. He is known as an author of the Concept of post-infectious clinical and immunological syndrome, co-author of a concept of abzymes and their impact into the pathogenesis of auto immunity conditions, and as one of the pioneers in promoting the Concept of PPPM into a practical branch of health services

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