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Editorial

Special Meeting Report: Keystone Symposia on Molecular and Cellular Biology, Hannover, Germany, June 4-8, 2018

Keystone Symposia is a nonprofit organization based in the United States that convenes scientific symposia with the aim of "Accelerating Life Science Discovery." Details on the organization, its seminars, and sponsors can be found at www.keystonesymposia.org.

The goal of this meeting report is to briefly describe my impressions of the symposium recently held in Hannover, Germany, entitled, One Million Genomes: From Discovery to Health. The conference program can be found on the Keystone Symposia website. This interesting symposium was organized in collaboration with the Volkswagen Foundation and sponsored by Regeneron Pharmaceuticals Inc, Vertex Pharmaceuticals Inc, Metabolon Inc, and a grant from the National Institutes of Health National Human Genome Research Institute. Speakers and participants came from a number of countries, academic institutions, companies, and government-associated organizations.

It has been 15 years since completion of the Human Genome Project. Although not all of the hype was justified concerning the role human genetics would/will play in the diagnosis, control, cure, or prevention of human diseases, there is now obvious, concrete, and rapidly accelerating progress being made. Presentations and posters covered many aspects of both advances and missteps made by governments, companies, institutions, and even medical journals in the development of so-called precision medicine. Many of the national, academic, as well as private models mentioned illustrate how rapidly systems are evolving that incorporate genomic information into (more or less) routine medical care. Examples include the genotyping of the entire population of Singapore being done by that country's Ministry of Health as described by Dr John Wong and similar programs being initiated and tested in Australia as described by Dr Kathryn North. Multiple presentations highlighted both the promise of genomics to make medicine more precise, effective, and personal as well as just how difficult it can be to implement a genetic revolution.

As an academic researcher involved in the use of cell-free circulating DNA in solid organ transplantation as well as a journal editor, I was especially interested in the emphasis on both the need for and challenges associated with the free and open sharing and exchange of information as it concerns the clinical implementation of genomic sequencing. Of particular interest to me were seemingly valid concerns expressed by Dr Robyn Ward in the session entitled Implementation Science for Genomic and Precision Medicine about the statistical methods used in a recent *New England Journal of Medicine* publication that has been used to support (and market) a breast cancer genetic test used to determine whether a specific patient needs chemo/radiotherapy. These comments raise valid questions about what measures should be used to assess the clinical and analytical utility or validity of genetic tests. Additional, important challenges discussed include how to incorporate patient and family values and priorities as well as physician and payer perspectives into the clinical choices made on the basis of genetic test results. Perhaps the best way to summarize the many challenges is to emphasize that there are still major differences between what is possible or even statistically better and what each stakeholder would prefer when given the same genetic test result.

There is a large and growing need for all stakeholders (eg, practitioners, academics, patients, industry representatives, and even medical journal staff) to be exposed to both the speakers and topics discussed at this meeting. I hope this journal will be able to convince speakers and sponsors of such conferences to make the content of meetings more available to those who are unable to attend in person. As part of this effort, I hope to publish both articles and webcast-style lectures online to make them freely available to readers. Comments and suggestions are encouraged concerning potential topics, meetings, or specific presentations.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.curtheres.2018.11.001.

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