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What's in a name: The new meaning of applied and translational genomics

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Translational and applied genomics drives clinical genomics, including personalized medicine, which includes pharmacogenomics. The term is often used to mean different things. The field will benefit from a clear definition and consistent and coherent use of the term. Historically, applied research was considered a distinct activity, namely R&D, from basic and pre-clinical research. This distinction is outdated, as translational research now extends functional science to include the use of 'Omics' to capture the dynamism of biological processes and environmental exposures. With this new orientation translational omics incorporates longitudinal data generated by the ever more quantified individual. Systems thinking, big data and predictive analytics, real time monitoring and patient/consumer participation at all points of the lifecycle are, now, part of translational and applied genomics. As such the opportunity to develop high impact solutions based on research focused on greater relevance to human health exists. Increasing reciprocal data and knowledge sharing with researchers in less resourced areas of the world can promote greater sharing of the benefits of genomic advances and personalized medicine. In this way, greater equity may be achieved.

Biography

Carol Isaacson Barash holds a PhD from the University of Chicago/Boston College and is Founder & Principal of Helix Health Advisors, a consultancy specializing in integrating transformative genomic technologies to point of care, Editor-in-Chief of the *Journal of Applied & Translational Genomics*, Elsevier and lecturer on personalized medicine, Regis College. She serves as a Bioethics Resource Expert for Bioethics Beyond Borders, and is part of the Genetics-Bioethics Network, both of UNESCO. Previously, she co-chaired the Ethics and Education Committees of the International Human Variome Project. She authored the book *Just Genes: The Ethics of Genetic Technologies*, has written several book chapters and published over 30 journal articles.

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