

Paul W. Armstrong

Reflections on Balancing Precision and Personalized Cardiovascular Medicine

Medicine remains a complex balance between the venerability of its art and the accelerating elements of the science that informs its potential for innovation. In the search for enhancing care, the advent of novel diagnostic tools has unraveled phenotypes such as heart failure and myocardial infarction into more precise categories that have differing implications for therapy and prognosis. So too have genomics, proteomics and other *omics* led to hitherto undiscovered selective therapeutic opportunities. The avalanche of interest in this arena has led some to characterize personalized and precision medicine as synonyms. They are not.

Personalized medicine is as old as medicine itself. It is firmly planted in treating the whole patient by placing him or her in much broader portrait that that comprised by the presenting symptoms or disease process. This requires thoughtful consideration of the social determinants of health including the environment, life style, as well as the person's values and expectations. By ensuring, that the whole person frames the "disease" a conduit is established. This conduit builds the necessary rapport and trust which in turn modulates the likelihood of adherence to the physician's recommendations so critical to the success of therapy. Delivering personalized medicine requires clinical skill.

By contrast, precision medicine opens selected windows into a patient using such techniques as molecular diagnostics, proteomics, metabolomics and novel imaging to define specific subgroups that can not only enhance the potential for benefit but also avoid unnecessary risk or harm. The current focus on therapy of established disease may ultimately yield greater long-term return on investment when shifted towards prevention of chronic disease.

At the interface of moving from population medicine to a more precise and or personal approach is the emergence of electronic medical records, a biomarker revolution and mobile devices that provide "big data" in diverse forms. Synthesizing and integrating this data through artificial intelligence is a work in progress.

This presentation –by a non expert (buyer beware) - will provide a personal view on one attempt to strike a balance between personalized and precision medicine, describe some illustrative examples and reflect on current healthcare trends and potential future directions.

References:

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