

Commentary

The Importance of Thinking about and Quantifying Diseases like Cancer and Heart Disease on a “Health-Spectrum” Continuum

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Quantification of the Health-Spectrum

The current approach to diagnosing and treating disease has been the use of an overly simplified model where disease is either considered to be present or absent. If present, we treat with any of a variety of approaches and if absent we do nothing. This model appears to have mostly evolved from the approach of first keeping people alive with critical disease and further promulgated by the overly simplistic approach of using current procedural terminology (CPT) codes to obtain payment for the work done by clinicians, hospitals and clinics. This approach has neither helped advance the field of Medicine or allied medical fields, but it has hampered the care of people with “pre-existing conditions”.

This limited qualitative thinking not only obfuscates medical care, but it impedes the progression of medicine itself. Diseases are not a yes, no light switch phenomena. A person does not go from having a complete state of health with “absence of disease” to “death from (that) disease”. Changes across the “Health-Spectrum” are the result of the individual’s specific genetic response to the environmental insults the person is confronted with; a point established with the “Inflammation and Heart Disease” theory [1].

Each individuals specific environmental influence, be that diet, smoking, air pollution, alcohol, other “recreational drugs”, prescription drugs, over the counter medications, including vitamins and minerals; which are introduced into the individual, ultimately interact with the person and any other bacterial or other living organisms within the intestinal, respiratory or other systems of the body, to produce an impact upon the individuals specific cells. Those cells based upon the genetic predispositions, will react or fail to react accordingly.

The ultimate purpose of a biological system, of which people are one such biological system, is to survive and reproduce. From the survival perspective, the patient’s cellular response will be one to maintain homeostasis. To maintain that homeostasis, cells will produce chemical mediators, which trigger the recruitment of other cells within the body to respond to that external stimulus. The result of this is to activate the body’s immune system, which will yield what we have come to call an inflammatory response.

If the inflammatory response is successful, the body’s homeostatic status quo is maintained; if not a state of change or disease begins. However, there is nothing that demands that this change is permanent or that the process proceeds only in one direction; viz. toward disease progression. In fact, the constant insults incurring daily and the

continued appearance of disease remission demonstrates that the process is a two directional path; either proceeding toward a greater state of disease or a return toward “normalization” and absence of disease as shown in Figure 1.

Our prior limited perception that disease is either present or absent is based upon the qualitative limitation of either finding disease or not finding disease; a problem, which is commonly associated with sensitivity and specificity problems. Such an approach has not only limited our ability to intellectually recognize the presence or absence of transitional changes in health, but it has also limited our ability to intervene earlier in these transitional changes where we may be able to have the greatest impact on maintaining “Health” with the least potential for causing further harm through the use of more aggressive treatments.

The ability to quantitatively measure (Figure 1) these changes across the “Health-Spectrum” using a patented method (viz. FMTVDM) is now possible [2]; however, this move forward requires the recognition that we think in terms more sophisticated than simply a qualitative yes/no and it requires this “truly quantitative” approach. The use of semi-quantitative approaches [3,4] do NOT provide such “true quantification”. As shown in Figure 1, this quantification measuring the interaction between environmental insult and genetic response is applicable for all disease states, including but not limited to coronary artery disease, cancer, diabetes mellitus, arthritides, et cetera. It also requires that we pay careful attention to what we recognize as a truly quantitative measurement [3,4] to avoid repeating the errors of the past as we move from a qualitative model of disease to a quantitative “Health-Spectrum” model increasing our ability to improve human “Health” and provide patient specific treatments [5].

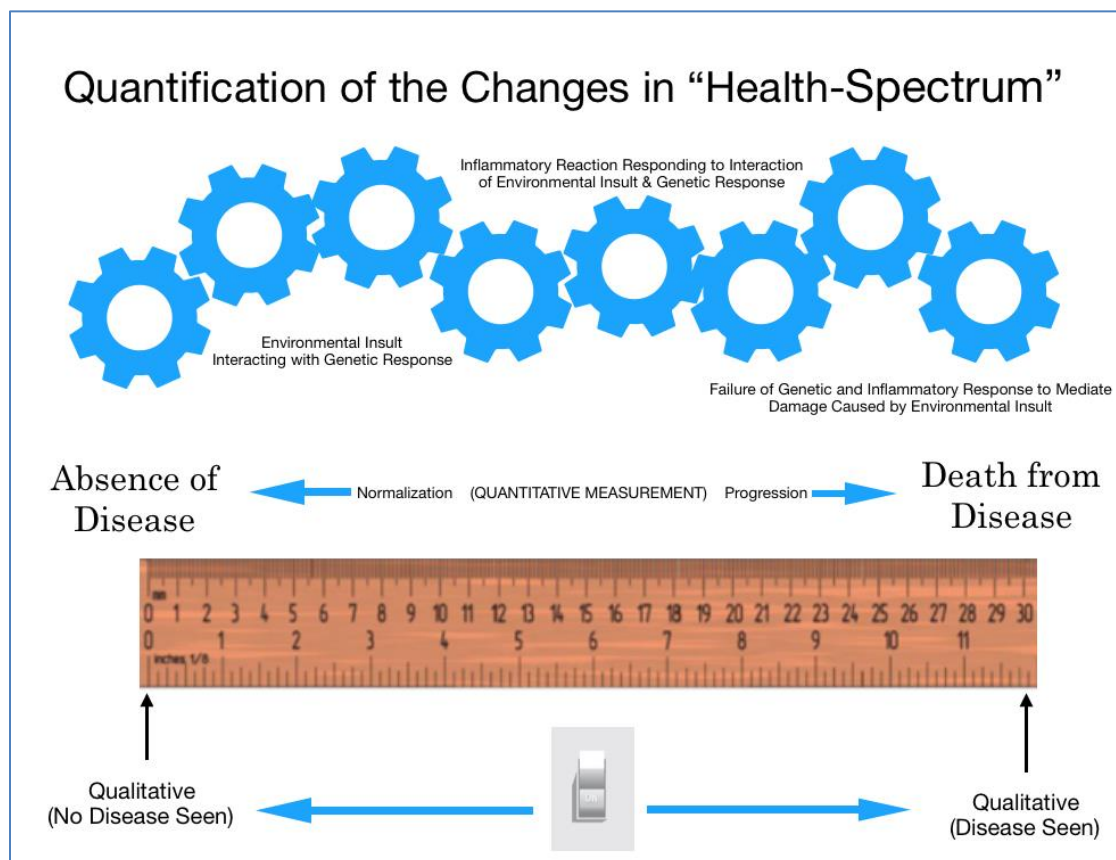


Figure 1: Progression or regression of “Health” across a “Health-Spectrum” is a continuum of transitional changes occurring over time resulting from the interaction of the individual’s specific genetic material and response to the environmental influences (both positive and negative) acting upon that person. This continuum can proceed in either direction, towards progression or normalization of “Health”.

Conflict of Interest

FMTVDM with BEST Imaging ©® has been issued to the Primary Author. The figure is reproduced by permission of primary author.

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