Application of the Health Assessment Deviation (HAD) to My Health*e*Vet Portal

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Abstract

The Health Assessment Deviation© (HAD) is an innovative method of understanding intricate relationships between health and pathology. With the application of the HAD algorithm, any numeric diagnostic data can be normalized regardless of coding system, units of measurement or the magnitude of the diagnostic result with the use of standardized z scores. My HealtheLab is being developed in response to the Veterans Affairs My HealtheVet portal and could serve as a normalized personal health record.

Introduction

The HAD is an attempt to classify the analyte concentration (lab test) into mutually exclusive "domains" that do not conclusively define health or pathology, but establishes some reference point in order to deduce the physiologic status of the individual during nutritional or metabolic processes. Simply stated, HAD values originate at "zero" and extend in a positive and negative direction until a cut-off value of 1.99, designated as Class I concentration or measurement. Class I measurements include 95% of the reference population used to determine the range of measures for the lab test. Since the application of the HAD algorithm has been used in private practice since 1985, it would be beneficial to employ this type of interpretative reporting to store patient-centered laboratory data in a longitudinal lifetime personal electronic record such as the My HealtheVet portal.

About the Analyte Classification System

The Analyte Concentration Classification System© (ACCS) is a concept that effectively and efficiently assimilates the empirical data produced by the clinical laboratory. The classification system can be further expanded to reflect a symptom category. Since the activity of the clinical laboratory is to measure your subclinical findings via bioanalysis, the numeric data (lab test) can be translated to a symptom category as follows:[1,2]

Class I: HAD positive and negative direction from 0 to 1.99

Class I analytes or lab tests may reflect "Functional" physiologic symptomatology. These are the usual indicants observed in "stable-state physiology" or homeostasis. Functional symptoms may also be expressed in the presence of a known disease entity. Class I measurement is the anticipated concentration in nondiseased subjects and includes 95.5% of a sampling or diagnostic paradigm that usually reflects a zone of "positive" health. HAD range includes zero i.e., 0.0 (average person's test measurement...the same as calling 98.6° standard temperature) plus or minus 1.99 units around the average or 0.00 in the population tested. Your doctor will usually tell you that your lab test is normal.

Class II: HAD positive and negative direction from HAD 2.0 to 2.99

Class II analytes or lab tests may reflect "Equivocal" physiologic symptomatology. These indicants may not point to any special disease entity, being associated with any one of a number of morbid states. This Class of measurements may also indicate a health/disease overlap referred to as physiologic overlap or may be due to individual variation or indicative of a prodromal effect (before symptoms manifest) and includes 99.7% of a sampling or diagnostic paradigm that usually reflects a zone of "Cautious" health. HAD range includes positive +2.0 units to +2.99 units and negative -2.0 units to -2.99 units. This is a narrow Class of measurement and your doctor may refer as a "borderline" test result.

Class III: HAD positive & negative direction from 3.0 to clinical absurdity

Class III analytes or lab tests may reflect "pathognomonic" symptomatology. These indicants usually point unmistakably to certain disease entities. If there are no medical operatives such as drugs, exercise, or genetics, then these measurements indicate decreased health unless a desirably elevated concentration is beneficial to physiologic

function and may reflect a zone of "Negative" health. HAD range includes any measurement greater than positive +3.0 or negative −3.0 units. Your doctor is most concerned with this Class of measurements because this group of measurements represents less than 0.3% of all test values and typically tells you that your lab tests are abnormal high or abnormal low … Your doctor will usually tell you that your lab test is "abnormal."
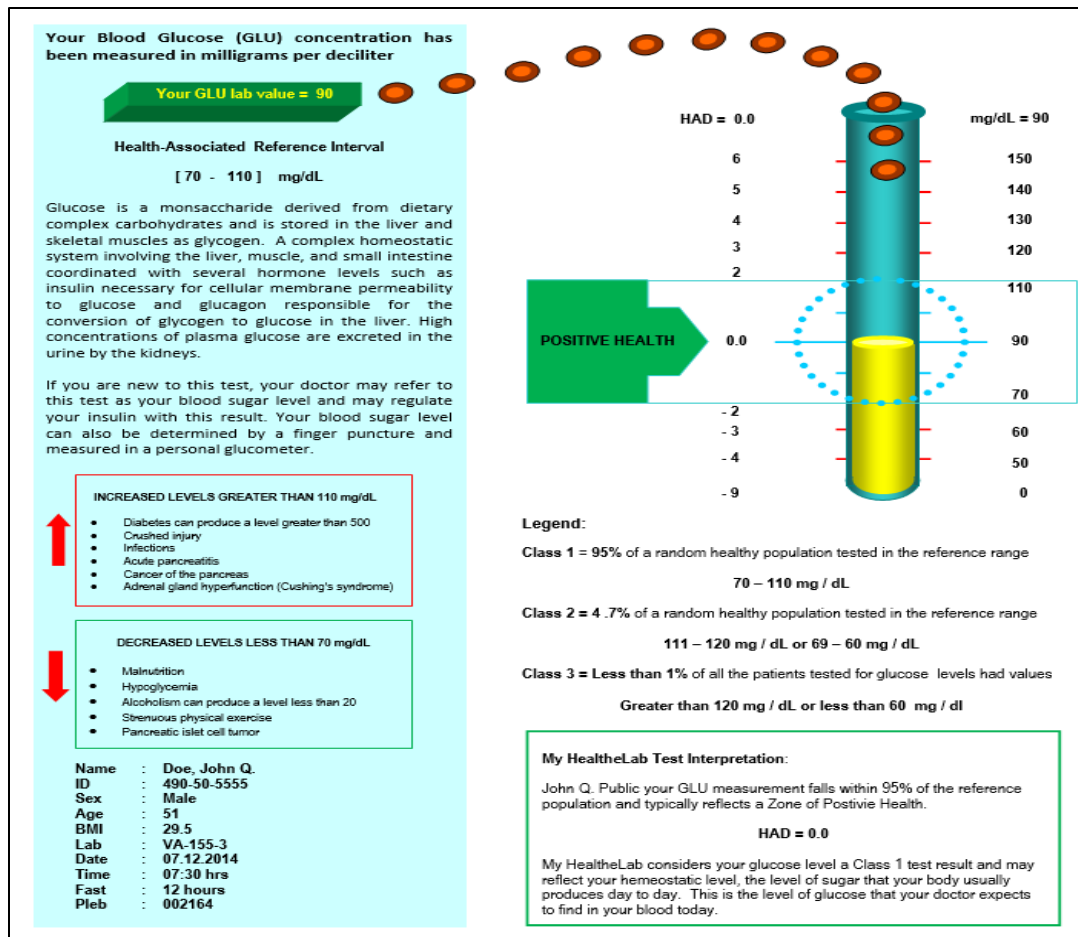

Figure 1. Interpretative report for a patient glucose report for My Health*e*Lab – uniquely personal health through preventive care featuring the health assessment deviation (HAD) with diagnostic Dx widget[2].

Conclusion

The purpose for providing the HAD is to augment the visualization of the numerical laboratory findings appropriate for reporting on My Health*e*Vet person health record portal. The HAD Classification is not a diagnosis but a tool to be used by the attending physician to instruct the patient to a healthy lifestyle. Nutritional or metabolic evaluation of Veterans' physiology is the primary intent for providing this type of information for personal use. A healthy Veteran can use this information wisely as guidance to a healthier status, consulting the attending doctor if any information may cause concern or confusion. My Health*e*Lab can serve as a personal health record for all VA laboratory test results regardless where the laboratory performed the tests, available anytime anywhere on My Health*e*Vet portal.

References

1. Tinsley CJ. Diagnostic modalities in clinical pathology utilizing diagnosis related groups. Columbia Pacific University. 1984; 125-142.
2. Booklet. Healthlab – Uniquely personal health through preventive care. Health Laboratory Research Institute. 1985; 1-46.