**Computational Epidemiology – Paper Review**

**Find and read an article from a reputable source (CDC, WHO, Medical Journal, IEEE) on one of the topics below and fill out the form that follows:**

**Topics:**

Communicable diseases

Infectious diseases

Epidemics

Epidemiology

Endemic

**To turn in:**

Your Name: Corbin Matamoros

Name of Article: “Endemic or epidemic? Measuring the endemicity index of diabetes” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4287779/>

Author(s): S. Kalra, A. Kumar, P. Jarhyan, & A.G. Unnikrishnan

Short description of article in your own words (3-5 sentences - DO NOT copy/paste):

Diabetes mellitus has been considered an epidemic in most countries, where its presence has increased “clearly in excess of normal expectancy.” [1] However, in India, diabetes mellitus cases have become so common and persistent that their presence can be considered continuous – a condition endemic to that region. Put simply, if the increase of syndrome cases stays under and varies under two standard deviations over long periods of time – throughout a decade – then diabetes mellitus can be considered an endemic syndrome. The authors suggest an update to the classification of diabetes mellitus as an epidemic by defining the Diabetes Endemicity Index (DEnI) equation. For large values of DEnI, the conversion of prediabetic to diabetic cases is low enough to justify coining the term “diabetes endemia” for a region. Lower values would indicate the syndrome cases are increasing.

[1]. Porta M, editor. 5th ed. New York: Oxford University Press; 2008. Dictionary of Epidemiology; pp. 78–9. [Google Scholar]

Two significant vocabulary words from article along with definitions (which may or may not be given in the article). Definitions may be copied/pasted from a reliable source, but cite the source.

Hate to be this guy, but the article strongly articulated the importance of distinguishing the terms “epidemic” and “endemic.” The word ‘epidemic’ can be used as an adjective and as a noun, whereas the word ‘endemic’ is only used as an adjective to describe an area or disease. An **epidemic**, defined in epidemiology, is or describes a health-related event/behavior that exceeds normality (like the rise of swine flu cases in the USA back in 2009). On the other hand, an **endemic disease** has a constant presence within an area or group (like seasonal influenza in the USA). It’s reasonable to assume an endemic disease can surpass expectations and transform into an epidemic.

Two other terms to define would be the Diabetes Epidemicity Index (DEpI) and the Diabetes Endemicity Index (DEnI). The DEpI is the ratio of impaired glucose tolerance (IGT) to total glucose intolerance (TGI):

Higher values for DEpI suggest a higher increase in the incidence of diabetes can be predicted. The DEnI is the inverse of the DEpI, where the higher the value, the smaller the pool for potential diabetic cases.