

## Diagnosis Gap in Epilepsy

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### Abstract

Diagnosis Gap (DG) is an estimative of the number of people who have epilepsy but were not diagnosed with this neurologic condition yet. The DG contributes to the Treatment Gap, which is the lack of treatment in epilepsy. DG was calculated and correlated with Human Development Index (HDI) in each state and region (north, south, southeast, northeast and centerwest) of the country. DG estimated by state varies from 45% to 94%. DG by region varies from 66% to 86%. An inverse correlation was found between DG and HDI by region.

*Key words: Epilepsy, diagnosis gap, treatment gap.*

### Introduction

Epilepsy has a lifetime cumulative prevalence of 1% (1). It's known that 70% of these individuals can have their seizures controlled by Antiepileptic Drugs (AEDs) in monotherapy or polytherapy (2).

Treatment gap is defined as the lack of treatment or the incorrect treatment of epilepsy. The most optimistic treatment gap estimative in Brazil is around 40% (3), even though Brazilian Health System is free, universal and provides AEDs without any cost for individual with epilepsy. We believe that the main reason for the lack of treatment in epilepsy is that they are not being diagnosed and followed at the healthcare services. The percentage of no diagnosis in epilepsy is here called the Diagnosis Gap (DG).

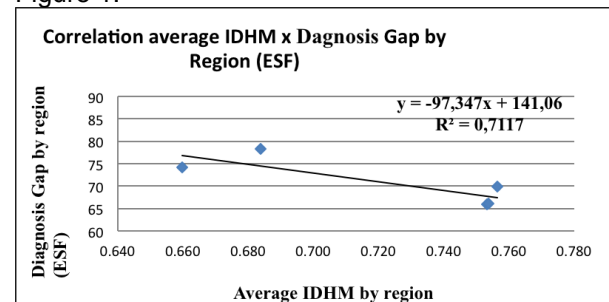
### Results and Discussion

We used database from Brazilian Health System (SUS), and Brazilian Institute of Statistics and Geography (IBGE) to estimate DG in the primary care in each Brazilian state and region. The analyzes considered current DG according to two different primary health programs coverage, Communitarian Health Agents (ACS) or through the Family Health Programme (ESF). Current Diagnosis Gap estimated by state varies from 45% (ES-ESF) to 94% (AP-ACS). The current DG by region varies from 66% (SE, CW-ESF) to 86% (N-ACS).

There was an inverse correlation between HDI and the DG within the regions (see figure 1).

Some of the responsible causes of deficient pharmacological treatment for epilepsy in Brazil are lack of medical instruction and lack of knowledge about the existence of a treatment (3). These problems are directly related to Diagnosis Gap as people who are not being diagnosed are invisible to the health system and therefore won't be aware about treatment possibilities and about the correct usage of Antiepileptic drugs (AEDs).

Figure 1:



In order to overcome this burden and increase the quality of life of patients who have epilepsy it is necessary to implement a well structured health program aiming diagnosis as a priority and also adherence to treatment as the next step of the challenge. Previous studies suggest that one of the cost-effective pathways to increase epilepsy diagnosis is through specific professional training (4).

### Conclusions

The diagnosis gap in epilepsy is high in the primary care in Brazil. The regional social and economic settings appear to correlate with diagnosis gap, and it needs to be further explored.

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