

Benzodiazepines's Utilization and Forecast in Portugal Mainland



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BACKGROUND

One of the latest studies published in Portugal on this issue revealed a decrease in the use of these drugs. However, the levels of utilization didn't diminish as it was expected and it's now important to overview this utilization in an extended period of time.

OBJECTIVES

To determine the benzodiazepines's utilization and expenditure patterns in a regional or national level.

To implement a prediction model in order to describe these data behaviour in the near future.

METHODS

Data collection refers to benzodiazepines prescribed and dispensed in ambulatory care to the population covered by the National Health Service (NHS), from 1st January 2000 to 31st December 2007.

ATC selected groups were: N05B (anxiolytics) and N05C (hypnotics and sedatives).

Main outcome measure was the Defined Daily Dose (DDD) which reflects the average maintenance dose per day for a drug used for its main indication in adults, and DDD per 1000 inhabitants per day (DID). DDD were assigned according ATC index 2007.

A Polynomial Model was adjusted to the utilization dataset and forecast was based on a second degree polynomial function. Statistical analysis was performed in order to evaluate goodness of the implemented model and consequent forecast.

RESULTS

There are two distinct phases in benzodiazepines's utilization: during 2000-2003 a small decrease was shown but in the following year benzodiazepines's use increased, reaching 96,83 DID in 2007. In fact, the growth observed during this period was 4,4%.

This overall growth was due to anxiolytic benzodiazepines since consumption increased 12,2% (9,11 DID) over the period in study while hypnotic benzodiazepines rate stood for -28,4%. We can address this reduction to intermediate duration of action hypnotics whose rate was -61,7%.

Asymmetries were observed in the 5 different country regions: North and Centre present the highest variation values (13 DID) in opposition to the other three regions (which are Lisbon and Tagus Valley, Across Tagus and Algarve). Algarve is clearly the region where benzodiazepines are less used (66,43 DID in 2007).

Figure 1- Evolution of Benzodiazepines's Utilization, by Type

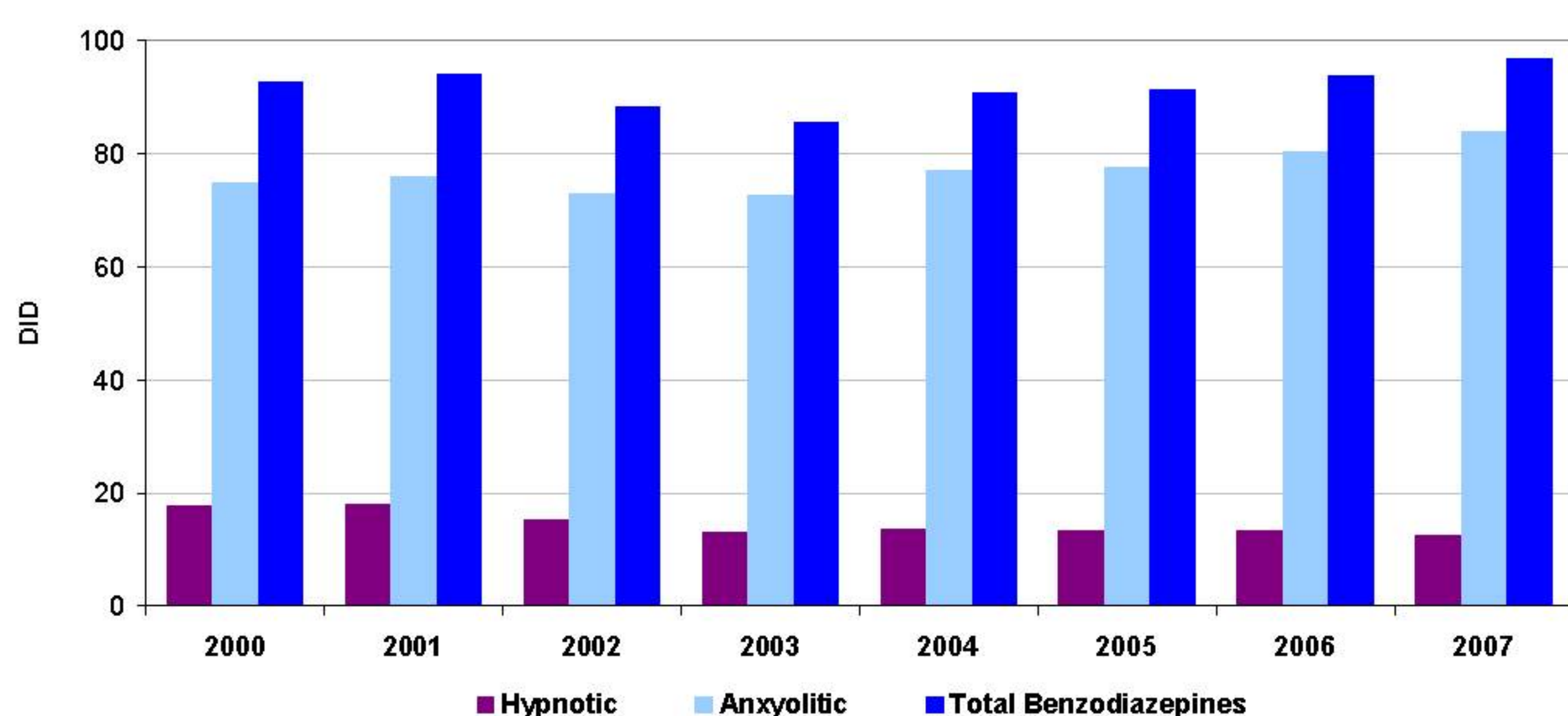


Figure 2- Evolution of Benzodiazepines's Utilization, by Region

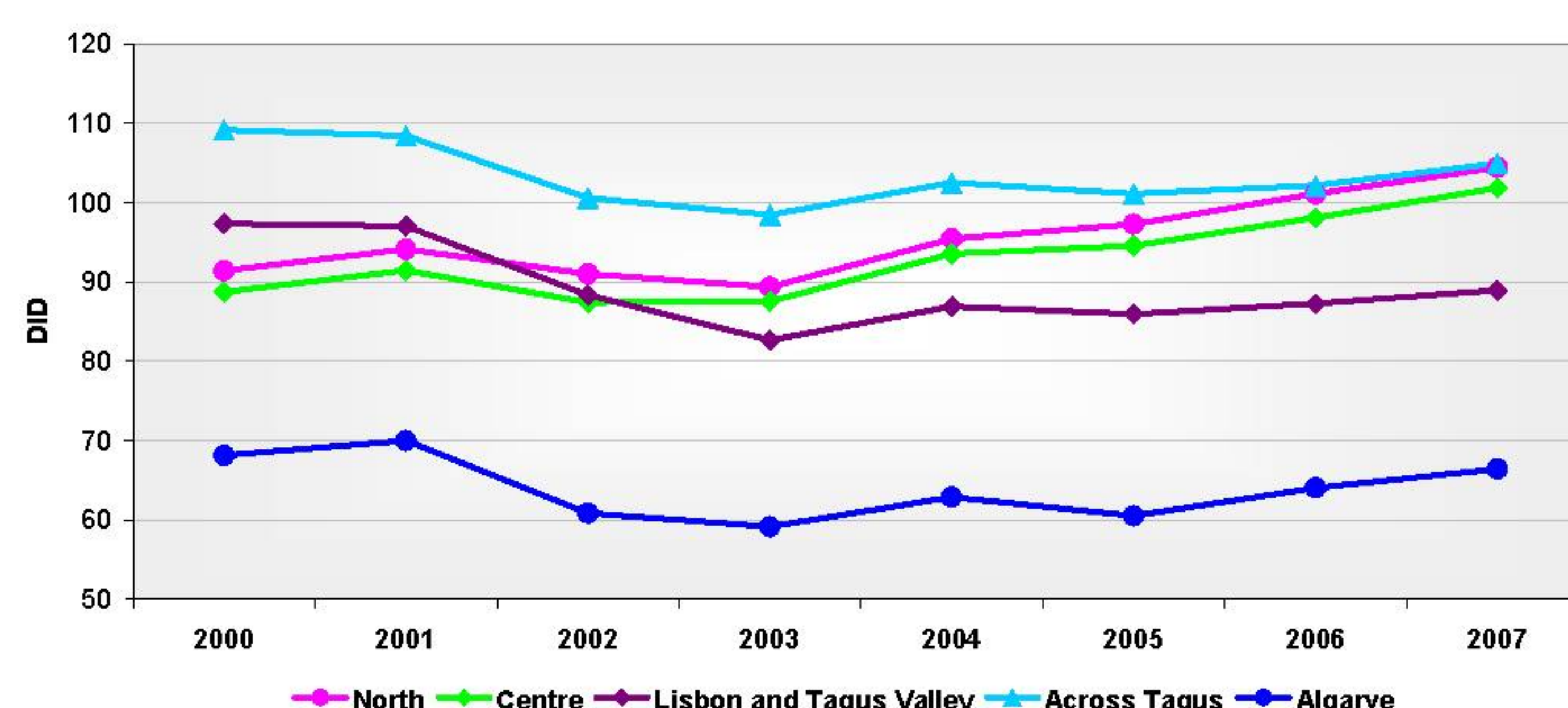


Figure 3- Mathematical Model and Forecast

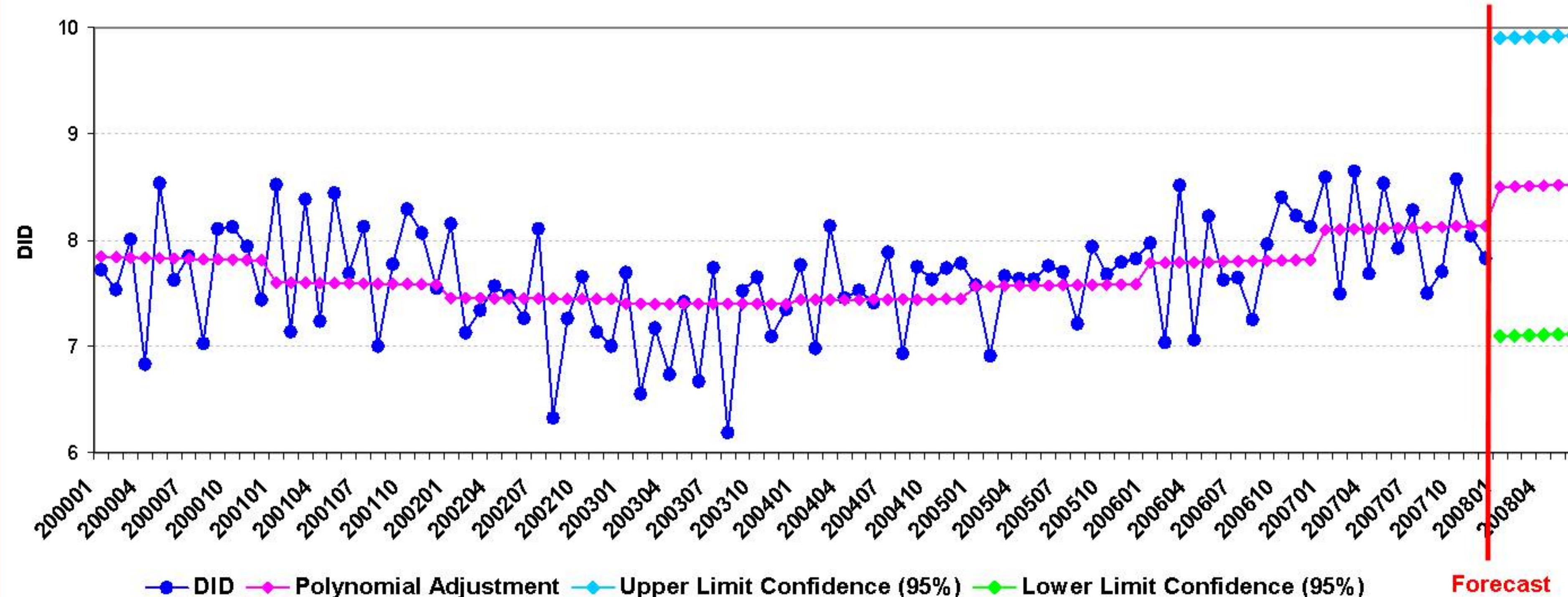


Table 1- Forecast vs. Reality

Year 2008	Forecast Estimation	Real Data
January	8,50	8,52
February	8,50	7,80
March	8,51	7,69
April	8,51	8,19
May	8,52	7,94
June	8,52	7,65
Total (1st Semester)	51,07	47,79

Unit: DID

The Polynomial Model ($B_0 + B_1t + B_2t^2$) showed goodness-of-fit and performed forecast accounted for 51,07 DID during the next six months.

CONCLUSIONS

In spite of International Narcotics Control Board's highlight on benzodiazepines's utilization and even with a small decrease occurred in 2000-2003, a global growth prevails.

National Health Plan aims to 71 DID use in 2010. Forecasts disclose that the market is clearly far away from this goal.

NO CONFLICT OF INTEREST

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